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PS/2 it!

Reference Guide

IBM Personal System/2
and related products

January 1990

IBM

Sixth Edition (January 1990)

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All about the PS/2 Family...

Use this reference guide as a comprehensive, up-to-date source of information about the IBM Personal System/2®—as well as supported IBM products. It provides concise descriptions of every PS/2® system and compatible IBM displays and printers, and it highlights the features and benefits of a wide selection of supported IBM enhancement products and software. In addition, quick reference charts at the back make it easy to compare model specifications, performance, and enhancements supported.

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Contents

Personal System/2: Key highlights 4

Personal System/2

- Highlights 7
- Model 25 8
- Model 30 10
- Model 30 286 12
- Model 50 Z 14
- Model 55 SX 16
- Model 60 18
- Model P70 386 20
- Model 70 386 22
- Model 70 486 25
- Model 80 386 27

Displays

- Highlights 31
- Monochrome Display 8503 32
- Monochrome Display 8506 33
- Monochrome Display 8507 34
- Monochrome Display 8508 35
- Color Display 8512 36
- Color Display 8513 37
- Color Display 8514 38

Printers

- Highlights 41
- Proprinter II 42
- Proprinter II XL 43
- Proprinter III 44
- Proprinter III XL 45
- Proprinter X24E 46
- Proprinter XL24E 47
- Quietwriter Printer Model 2 48
- Quietwriter III Printer 49
- Quickwriter Printer 50
- LaserPrinter 51
- Personal Page Printer II 52

Features and options

- Highlights 55
- Migration and storage products 56
- Image products 61
- Memory expansion products 64
- I/O attachment cards 67
- Multimedia cards 71

Software

- Highlights 73
- Operating systems 74
- Languages 81
- Communications software 85
- Application enabling software 90
- Local Area Network (LAN) software 91
- Graphics software 94
- Image software 96
- Publishing software 97

Product summary

- Highlights 99
- Personal System/2 positioning 100

Quick reference charts

- PS/2 model comparisons 105
- IBM memory expansion table 106
- PS/2 enhancements—fixed disk storage expansion 106
- PS/2 options 107
- PS/2 performance and capacity improvements 108
- Communications software comparisons 108

IBM Personal System/2: Key highlights

Advanced technology
- Fewer components (VLSI/SMT)
- Micro Channel™ architecture
- Wide range of processors
- Data storage
- Analog displays

Price/ performance
- Balanced performance—PS/2 processors, memory, storage capacity, multitasking
- Integrated features included in unit price
- Low maintenance costs
- PS/2 quality and reliability—plus affordability

Graphics
- Integrated display chip
- Functionally superior analog displays

Operating systems
- IBM Operating System/2™
- DOS Versions 3.3 and 4.0
- AIX™ Personal System/2

Communi-cations
- Broad range of connectivity
- OS/2® Extended Edition integrated functions
- Active participant in network management

Quality/ reliability
- Driven by technology
- Foundation for enhanced data integrity
- Ergonomically designed for usability and serviceability
- Low maintenance costs

Growth/ compatibility
- Personal System/2: platform for system growth
- Increased capabilities and usability
- Systems Application Architecture™ (SAA™)

™Micro Channel, Operating System/2, AIX, Systems Application Architecture, and SAA are trademarks of International Business Machines Corporation.
®OS/2 is a registered trademark of International Business Machines Corporation.

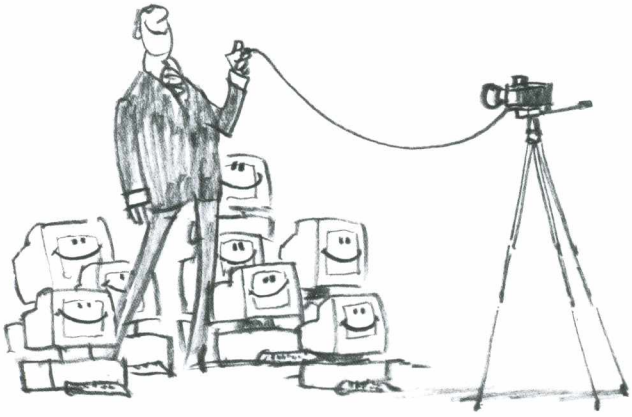
Personal System/2

The Personal System/2 family includes seven desktop systems, two floorstanding systems, and a portable that offer a wide range of solutions to meet your needs most anywhere.

PS/2 Models 25, 30 and 30 286 provide high levels of price/performance based on the traditional IBM PC architecture. Models 50 Z, 55 SX, 60, P70 386, 70 386, 70 486 and 80 386 incorporate Micro Channel architecture, which offers more reliable, efficient data flow and more direct memory access than earlier IBM PCs. The 25 MHz Model 70 386 can even be upgraded to a fast i486™ processor.

All PS/2 models come with a wealth of built-in functions—many functions that once required adapter cards are now integrated into the system board. The PS/2 Model 30 286 can use many of the same feature cards and adapters used with IBM Personal Computer ATs.®

Easy coexistence of the Personal System/2 and IBM Personal Computer families also extends to files and applications. Personal System/2 uses high-capacity 3.5-inch diskettes—yet with a 5.25-inch external drive option, you can still use files and most applications stored on 5.25-inch diskettes. Several media conversion options are available to provide easy migration of data and programs* between PS/2s and IBM PCs.



™ i486 is a trademark of Intel Corporation.
® Personal Computer AT is a registered trademark of International Business Machines Corporation.
** Before copying any software product, be sure to read, understand and comply with the specific license agreement and installation instructions for that product.*

Machine numbers

IBM Space Saving Keyboard
- 8525-001 (monochrome), -004 (color)

IBM PS/2 Enhanced Keyboard
- 8525-G01 (monochrome), -G04 (color)
- 8525-L01 (LAN Station monochrome), -L04 (LAN Station color)

Processor
- 8086, 8 MHz
- 8087 Math Co-Processor, 8 MHz (optional)

Wait states

0

Memory (RAM)

Models 25-001, -004, -G01, -G04
- 512Kb on the system board, expandable to 640Kb

- *Models 25-L01, -L04*
  640Kb on the system board

Storage
- One 720Kb 3.5-inch diskette drive

Optional
- Second 720Kb 3.5-inch diskette drive
- 20Mb fixed disk drive (80ms)
- IBM 5.25" External Diskette Drive 4869-001
- IBM 3363 Optical Disk Drive (external)

Display

Models 25-001, -G01, -L01 12" (diagonal measurement) analog monochrome display

Models 25-004, -G04, -L04 12" (diagonal measurement) analog color display

Graphics

MultiColor Graphics Array (MCGA)
- 8 x 16 character box
- 640 x 480 pels x 2 colors from a palette of more than 256,000
- 320 x 200 pels x 256 colors from a palette of more than 256,000
- 64Kb video RAM
- Analog display interface
- CGA compatibility

Integrated functions
- Serial (up to 9.6Kbps—25-pin male)
- Parallel (bidirectional—25-pin female)
- Pointing device (for example, mouse—6-pin module)
- Keyboard (6-pin module)
- Audio earphone connector
- Diskette controller

Expansion
- One full-size expansion slot (except -L01, -L04)
- One 8-inch expansion slot

Options

See page 107

Size

Height—15.38", Width—12.63", Depth—14.88", Weight—31 lbs. (monochrome unit), 36 lbs. (color unit); Space Saving Keyboard Width—15.86", Depth—7.5", Weight—4.28 lbs.

Power supply

90-watt (Models 25-001, -G01, -L01) or 115-watt (Models 25-004, -G04, -L04) world-wide (supplies power to both system and display); manual voltage selection, 90-137 VAC or 180-259 VAC; 50 or 60 Hz

LAN Station

Models 8525-L01 and -L04 include:*
- IBM Token-Ring Network PC Adapter installed in the full-size slot
- IBM Token-Ring Network PC Adapter Diskette

** Available through IBM Authorized Dealers. Available through IBM direct sales force by ordering 8525-G01 or -G04 plus the IBM Token-Ring Network Adapter (feature #3391) and 128Kb Memory Expansion Kit (feature #4105).*

Personal System/2 Model 30

Machine numbers	8530-001, -021
Processor	• 8086, 8 MHz • 8087 Math Co-Processor, 8 MHz (optional)
Wait states	0
Memory (RAM)	640Kb on the system board
Storage	*Both models* • One 720Kb 3.5-inch diskette drive *Model 30-021* • One 20Mb fixed disk drive (27ms) *Optional* • IBM PS/2 720Kb 1-inch High Diskette Drive (-001) (part #6451027) • IBM PS/2 1.44Mb 1-inch High Diskette Drive (-001) (part #6451026) • IBM 20Mb Fixed Disk Drive (27ms) (-001) (part #6451031) • IBM 30Mb Fixed Disk Drive (39ms) (-001) (part #6451030) • IBM 3363 Optical Disk Drive (external) • IBM 6157 Streaming Tape Drive • IBM 5.25" External Diskette Drive 4869-001

Graphics	*MultiColor Graphics Array (MCGA)* • 8 x 16 character box • 640 x 480 pels x 2 colors from a palette of more than 256,000 • 320 x 200 pels x 256 colors from a palette of more than 256,000 • 64Kb video RAM • Analog display interface • CGA compatibility
Integrated functions	• Serial (up to 9.6Kbps—25-pin male) • Parallel (bidirectional—25-pin female) • Pointing device (for example, mouse—6-pin module) • Keyboard (6-pin module) • Display (15-pin module) • Diskette controller • Disk controller • Clock/calendar
Expansion	Three 8-bit expansion slots (which accept existing IBM PC cards)
Options	See page 107
Size	Height—4", Width—16", Depth—15.6", Weight—17.5 lbs.
Power supply	70-watt worldwide; autosensing and autoswitching, 100-125 VAC or 200-240 VAC; 50 or 60 Hz

Personal System/2 Model 30 286

Machine numbers	8530-E01, -E21, -E31
Processor	• 80286, 10 MHz • 80287 Math Co-Processor, 10 MHz (optional)
Wait states	1
Memory (RAM)	• 1Mb on the system board, expandable to 4Mb • Expandable to 16Mb (total system memory) via adapter cards
Storage	*All models* • One 1.44Mb 3.5-inch diskette drive *Model 30-E21* • One 20Mb fixed disk drive (27ms) *Model 30-E31* • One 30Mb fixed disk drive (27ms)

	Optional • IBM PS/2 1.44Mb 1-inch High Diskette Drive (-E01) (part #6451026) • IBM 20Mb Fixed Disk Drive (27ms) (-E01) (part #6451031) • IBM 30Mb Fixed Disk Drive (39ms) (-E01) (part #6451030) • IBM 3363 Optical Disk Drive (external) • IBM 6157 Streaming Tape Drive • IBM 5.25" External Diskette Drive 4869-001
Graphics	*Video Graphics Array (VGA)* • 9 x 16 character box (720 x 400 text mode) • 640 x 480 pels x 16 colors from a palette of more than 256,000 • 256Kb video RAM • Analog display interface • CGA, EGA and MCGA compatibility
Integrated functions	• Serial (up to 19.2Kbps—25-pin male) • Parallel (bidirectional—25-pin female) • Pointing device (for example, mouse—6-pin module) • Keyboard (6-pin module) • Display (15-pin module) • Diskette controller • Disk controller • Clock/calendar
Expansion	Three 16-bit expansion slots
Options	See page 107
Size	Height—4", Width—16", Depth—15.6", Weight—19 lbs.
Power supply	90-watt worldwide; manual switching, 90-137 VAC or 180-265 VAC; 50 or 60 Hz

Personal System/2 Model 50 Z

Machine numbers	8550-031, -061
Processor	• 80286, 10 MHz • 80287 Math Co-Processor, 10 MHz (optional)
Wait states	0
Memory (RAM)	• 1Mb on the system board, expandable to 2Mb • Expandable to 16Mb (total system memory) via adapter cards
Storage	*Both models* • One 1.44Mb 3.5-inch diskette drive *Model 50-031* • One 30Mb fixed disk drive (39ms) *Model 50-061* • One 60Mb fixed disk drive (27ms)

	Optional • Second 1.44Mb 3.5-inch diskette drive • 60Mb fixed disk drive (27ms) (-031) • IBM 3363 Optical Disk Drive (external) • IBM 6157 Streaming Tape Drive • IBM PS/2 Internal Tape Backup Unit • IBM 5.25" External Diskette Drive 4869-001, -002
Graphics	*Video Graphics Array (VGA)* • 9 x 16 character box (720 x 400 text mode) • 640 x 480 pels x 16 colors from a palette of more than 256,000 • 320 x 200 pels x 256 colors from a palette of more than 256,000 • 256Kb video RAM • Analog display interface • CGA, EGA and MCGA compatibility
Integrated functions	• Serial (up to 19.2Kbps—25-pin male) • Parallel (bidirectional—25-pin female) • Pointing device (for example, mouse—6-pin module) • Keyboard (6-pin module) • Display (15-pin module) • Diskette controller • Disk controller: ST-506 (-031), Enhanced Small Device Interface (ESDI) (-061) • Clock/calendar
Expansion	*Three expansion slots* • Two 16-bit expansion slots • One 16-bit slot with video extension
Options	See page 107
Size	Height—5.5", Width—14.2", Depth—16.5", Weight—21 lbs.
Power supply	94-watt; 90-137 VAC or 180-265 VAC; 50 or 60 Hz

Personal System/2 Model 55 SX

Machine numbers	8555-031, -061
Processor	• 80386SX,™ 16 MHz • 80387 Math Co-Processor, 16 MHz (optional)
Wait states	0-2
Memory (RAM)	• 2Mb on the system board, expandable to 4Mb* • Expandable to 16Mb (total system memory) via adapter cards
Storage	*Both models* • One 1.44Mb 3.5-inch diskette drive *Model 55-031* • One 30Mb fixed disk drive (39ms) *Model 55-061* • One 60Mb fixed disk drive (27ms) *Optional* • IBM 3363 Optical Disk Drive (external) • IBM 6157 Streaming Tape Drive • IBM 5.25" External Diskette Drive 4869-001, -002

™80386SX is a trademark of Intel Corporation.
** 128Kb of this memory is reserved for hardware system use.*

Graphics	*Video Graphics Array (VGA)* • 9 x 16 character box (720 x 400 text mode) • 640 x 480 pels x 16 colors from a palette of more than 256,000 • 320 x 200 pels x 256 colors from a palette of more than 256,000 • 256Kb video RAM • Analog display interface • CGA, EGA and MCGA compatibility
Integrated functions	• Serial (up to 19.2Kbps—25-pin male) • Parallel (bidirectional—25-pin female) • Pointing device (for example, mouse—6-pin module) • Keyboard (6-pin module) • Display (15-pin module) • Diskette controller • Disk controller: ST-506 (-031), Enhanced Small Device Interface (ESDI) (-061) • Clock/calendar
Expansion	*Three expansion slots* • Two 16-bit expansion slots • One 16-bit slot with video extension
Options	See page 107
Size	Height—4", Width—16", Depth—15.6", Weight—19 lbs.
Power supply	90-watt worldwide; manual switching, 90-137 VAC or 180-265 VAC; 50 or 60 Hz

Personal System/2 Model 60

Machine numbers	8560-041, -071
Processor	• 80286, 10 MHz • 80287 Math Co-Processor, 10 MHz (optional)
Wait states	1
Memory (RAM)	• 1Mb on the system board • Expandable to 16Mb (total system memory) via adapter cards

Storage	*Both models* • One 1.44Mb 3.5-inch diskette drive *Model 60-041* • One 44Mb fixed disk drive (44ms) *Model 60-071* • One 70Mb fixed disk drive (30ms) *Optional* • Second 1.44Mb 3.5-inch diskette drive • Second fixed disk drive: 44Mb (40ms) (-041 only); 70Mb (30ms) or 115Mb (28ms) (-071 only) • IBM 3363 Optical Disk Drive (internal or external) • IBM 6157 Streaming Tape Drive • IBM PS/2 Internal Tape Backup Unit • IBM 5.25" External Diskette Drive 4869-001, -002 • IBM 5.25" Internal Diskette Drive Feature
Graphics	*Video Graphics Array (VGA)* • 9 x 16 character box (720 x 400 text mode) • 640 x 480 pels x 16 colors from a palette of more than 256,000 • 320 x 200 pels x 256 colors from a palette of more than 256,000 • 256Kb video RAM • Analog display interface • CGA, EGA and MCGA compatibility
Integrated functions	• Serial (up to 19.2Kbps—25-pin male) • Parallel (bidirectional—25-pin female) • Pointing device (for example, mouse—6-pin module) • Keyboard (6-pin module) • Display (15-pin module) • Diskette controller • Disk controller: ST-506 (-041), Enhanced Small Device Interface (ESDI) (-071) • Clock/calendar
Expansion	Seven available 16-bit expansion slots
Options	See page 107
Size	Height—23.5", Width—6.5", Depth—19", Weight—47 lbs.
Power supply	207-watt (-041) or 225-watt (-071) world-wide; autosensing and autoswitching, 90-137 VAC or 180-265 VAC; 50 or 60 Hz

Personal System/2 Model P70 386

Machine numbers	8573-061, -121
Processor	• 80386,™ 20 MHz • 80387 Math Co-Processor, 20 MHz (optional)
Wait states	0-2
Memory (RAM)	• 4Mb on the system board, expandable to 8Mb* • Expandable to 16Mb (total system memory) via adapter card(s)
Storage	*Both models* • One 1.44Mb 3.5-inch diskette drive *Model P70-061* • One 60Mb fixed disk drive (27ms) *Model P70-121* • One 120Mb fixed disk drive (23ms) *Optional* • IBM 3363 Optical Disk Drive (external) • IBM 6157 Streaming Tape Drive • IBM 5.25" External Diskette Drive 4869-001, -002

™80386 is a trademark of Intel Corporation.
**128Kb of this memory is required for hardware system use.*

Graphics	*Video Graphics Array (VGA)* • 16 gray-scales on plasma screen • Supports optional PS/2 color display or monochrome display • 640 x 480 pels x 16 colors from a palette of more than 256,000 • 320 x 200 pels x 256 colors from a palette of more than 256,000 • 256Kb video RAM • CGA, EGA and MCGA compatibility
Integrated functions	• Serial (up to 19.2Kbps—25-pin male) • Parallel (bidirectional—25-pin female) • Pointing device (for example, mouse—6-pin module) • Keyboard (6-pin module) • Display (15-pin module) • Plasma display • Diskette controller • External storage device port (for attachment of IBM 5.25" External Diskette Drive 4869-001 and other equipment manufacturers' backup devices) • Disk controller: Enhanced Small Device Interface (ESDI) • Clock/calendar
Expansion	*Two expansion slots* • One 16/32-bit expansion slot (full-size) • One 16-bit expansion slot (half-size)
Options	See page 107
Size	Height—12", Width—18.3", Depth—5", Weight—20.8 lbs.
Power supply	85-watt worldwide; autosensing and autoswitching, 100-125 VAC or 200-240 VAC; 50 or 60 Hz

Personal System/2 Model 70 386

Machine numbers

8570-E61, -061, -121, -A61, -A21

Processor

Model 70-E61
- 80386, 16 MHz
- 80387 Math Co-Processor, 16 MHz (optional)

Models 70-061, -121
- 80386, 20 MHz
- 80387 Math Co-Processor, 20 MHz (optional)

Model 70-A61, -A21
- 80386, 25 MHz
- 80387 Math Co-Processor, 25 MHz (optional)
- i486, 25 MHz (optional)
  - Integrated memory cache
  - Integrated 80387 Math Co-Processor, 25 MHz

Wait states

0-2*

**Except 25 MHz systems, with memory cache.*

Memory (RAM)

Models 70-E61, -061, -121
- 2Mb on the system board,** expandable to 6Mb

Models 70-A61, -A21
- 2Mb on the system board,** expandable to 8Mb
- Hardware memory cache: 64Kb

All models
- Expandable to 16Mb (total system memory) via adapter card(s)

Storage

All models
- One 1.44Mb 3.5-inch diskette drive

Models 70-E61, 061, -A61
- One 60Mb fixed disk drive (27ms)

Models 70-121, -A21
- One 120Mb fixed disk drive (23ms)

Optional
- Second 1.44Mb 3.5-inch diskette drive
- IBM 3363 Optical Disk Drive (external)
- IBM 6157 Streaming Tape Drive
- IBM PS/2 Internal Tape Backup Unit
- IBM 5.25" External Diskette Drive 4869-001, -002

Graphics

Video Graphics Array (VGA)
- 9 x 16 character box (720 x 400 text mode)
- 640 x 480 pels x 16 colors from a palette of more than 256,000
- 320 x 200 pels x 256 colors from a palette of more than 256,000
- 256Kb video RAM
- Analog display interface
- CGA, EGA and MCGA compatibility

***128Kb of this memory is required for hardware system use.*

(continued on page 24)

Personal System/2 Model 70 386

(continued)

Integrated functions	• Serial (up to 19.2Kbps—25-pin male) • Parallel (bidirectional—25-pin female) • Pointing device (for example, mouse—6-pin module) • Keyboard (6-pin module) • Display (15-pin module) • Diskette controller • Disk controller: Enhanced Small Device Interface (ESDI) • Clock/calendar
Expansion	*Three expansion slots* • Two 32-bit expansion slots • One 16-bit slot with video extension
Options	See page 107
Size	Height—5.5", Width 14.2", Depth—16.5", Weight—21 lbs.
Power supply	132-watt worldwide; autosensing and autoswitching, 100-125 VAC or 200-240 VAC; 50 or 60 Hz

Personal System/2 Model 70 486

Machine numbers	8570-B61, -B21
Processor	• i486, 25 MHz • Integrated memory cache • Integrated 80387 Math Co-Processor, 25 MHz
Wait states	Integrated memory cache
Memory (RAM)	• 2Mb on the system board,* expandable to 8Mb • Expandable to 16Mb (total system memory) via adapter card(s) • Hardware memory cache: internal 8Kb
Storage	*Both models* • One 1.44Mb 3.5-inch diskette drive *Model 70-B61* • One 60Mb fixed disk drive (23ms)

**128Kb of this memory is required for hardware system use.*

(continued on page 26)

Model 70-B21
- One 120Mb fixed disk drive (23ms)

Optional
- Second 1.44Mb 3.5-inch diskette drive
- IBM 3363 Optical Disk Drive (external)
- IBM 6157 Streaming Tape Drive
- IBM PS/2 Internal Tape Backup Unit
- IBM 5.25" External Diskette Drive 4869-001, -002

Graphics

Video Graphics Array (VGA)
- 9 x 16 character box (720 x 400 text mode)
- 640 x 480 pels x 16 colors from a palette of more than 256,000
- 320 x 200 pels x 256 colors from a palette of more than 256,000
- 256Kb video RAM
- Analog display interface
- CGA, EGA and MCGA compatibility

Integrated functions
- Serial (up to 19.2Kbps—25-pin male)
- Parallel (bidirectional—25-pin female)
- Pointing device (for example, mouse—6-pin module)
- Keyboard (6-pin module)
- Display (15-pin module)
- Diskette controller
- Disk controller: Enhanced Small Device Interface (ESDI)
- Clock/calendar

Expansion

Three expansion slots
- Two 32-bit expansion slots
- One 16-bit slot with video extension

Options

See page 107

Size

Height—23.5", Width—6.5", Depth—19", Weight—47 lbs.

Power supply

132-watt worldwide; autosensing and autoswitching, 100-125 VAC or 200-240 VAC; 50 or 60 Hz

Personal System/2 Model 80 386

Machine numbers

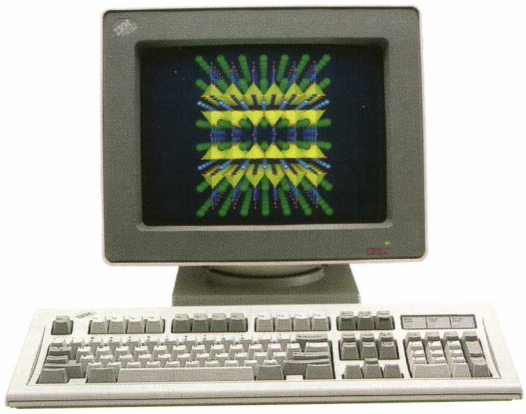
8580-041, -071, -111, -311

Processor

Models 80-041, -071
- 80386, 16 MHz
- 80387 Math Co-Processor, 16 MHz (optional)

Models 80-111, -311
- 80386, 20 MHz
- 80387 Math Co-Processor, 20 MHz (optional)

(continued on page 28)



Personal System/2 Model 80 386

(continued)

Wait states

1 (80-041, -071) or 0-2 (80-111, -311)

Memory (RAM)

Model 80-041
- 1Mb on the system board, expandable to 2Mb

Model 80-071
- 2Mb on the system board

Models 80-111, -311
- 2Mb on the system board, expandable to 4Mb (-111, -311*)

All models
- Expandable to 16Mb (total system memory) via adapter card(s)

Storage

All models
- One 1.44Mb 3.5-inch diskette drive

Model 80-041
- One 44Mb fixed disk drive (40ms)

Model 80-071
- One 70Mb fixed disk drive (30ms)

Model 80-111
- One 115Mb fixed disk drive (28ms)

Model 80-311
- One 314Mb fixed disk drive (23ms)

Optional
- Second 1.44Mb 3.5-inch diskette drive
- Second fixed disk drive: 44Mb (40ms) (-041 only); 70Mb (30ms), 115Mb (28ms) or 314Mb (23ms) (-071, -111, -311 only)
- IBM 3363 Optical Disk Drive (internal or external)
- IBM 6157 Streaming Tape Drive
- IBM PS/2 Internal Tape Backup Unit
- IBM 5.25" External Diskette Drive 4869-001, -002
- IBM 5.25" Internal Diskette Drive Feature

**128Kb of this memory is required for hardware system use.*

Graphics

Video Graphics Array (VGA)
- 9 x 16 character box (720 x 400 text mode)
- 640 x 480 pels x 16 colors from a palette of more than 256,000
- 320 x 200 pels x 256 colors from a palette of more than 256,000
- 256Kb video RAM
- Analog display interface
- EGA, CGA and MCGA compatibility

Integrated functions
- Serial (up to 19.2Kbps—25-pin male)
- Parallel (bidirectional—25-pin female)
- Pointing device (for example, mouse—6-pin module)
- Keyboard (6-pin module)
- Display (15-pin module)
- Diskette controller
- Disk controller: ST-506 (-041), Enhanced Small Device Interface (ESDI) (-071, -111, -311)

Expansion

Seven available expansion slots
- Four 16-bit expansion slots
- Three 16/32-bit expansion slots

Options

See page 107

Size

Height—23.5", Width—6.5", Depth—19", Weight—52 lbs.

Power supply

207-watt (-041) or 225-watt (-071, -111, -311) worldwide; autosensing and auto-switching, 90-137 VAC or 180-265 VAC; 50 or 60 Hz

Displays

The PS/2 display family incorporates advanced technology that, when coupled with the graphics support integrated in every model of the PS/2 family or with an appropriate display adapter, provides a high performance level in addressability and color capabilities.

Features common to the seven IBM displays include:

High addressability
Enhanced color/shading capability
Clarity and quality

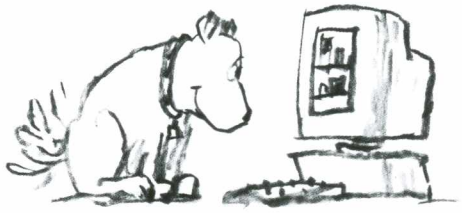
- **Wide selection in screen sizes, 12 to 19 inches (diagonal measurement)**
- **Double-scan 200-line modes**
- **4:3 horizontal-to-vertical data area aspect ratio**

Common analog port for display interchangeability

- **Personal System/2 family**
- **IBM PC family via IBM Personal System/2 Display Adapter**

Automatic mode switching
Analog display interface

- **A palette of more than 256,000 colors (color displays)**
- **Up to 64 shades of gray (monochrome displays)**



IBM Personal System/2 Monochrome Display 8503

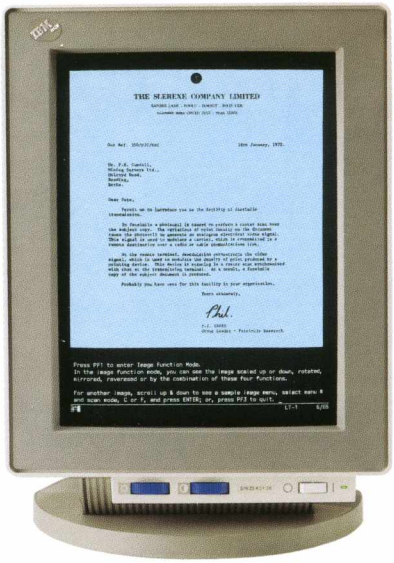
Input signal	Analog
Display size	12" (diagonal measurement)
Display type	Monochrome White-on-black or black-on-white
Palette	Up to 64 shades of gray
Addressability	• 720 x 400 text • 640 x 480 graphics • 320 x 200 graphics
Character size	• 8 x 16 character box text (MCGA) • 9 x 16 character box text (VGA)
Speed	• 31.5 KHz horizontal scan frequency (all modes) • Noninterlaced with up to 70 Hz vertical refresh rate
Highlights	• Standard tilt-and-swivel stand • 6-foot signal cable • Reduced glare
Size	Height—12.4" (with stand), Width—12.6", Depth—12.2", Weight—18.8 lbs.

PAYROLL RECORD
Predefined Reports
Print Options
Report title.....
Print totals only.....
Pause between pages.....
Page width.....
Lines per page.....
Use printer control codes.....
Print to printer, disk, or screen (p/d/s) [s]
Use the Tab key to move to the next item. Press F10 to accept all items.

IBM Personal System/2 Monochrome Display 8506

Input signal	Analog
Display size	17" (diagonal measurement)
Display type	Monochrome White-on-black or black-on-white
Palette	Up to 16 out of 256 shades of gray
Addressability	• 736 x 724 pels* • 736 x 414 pels • 656 x 496 pels • 848 x 1200 pels*
Character size	• 8 x 16 character box text (MCGA) • 9 x 16 character box text (VGA)
Speed	70.8 Hz noninterlaced refresh rate
Highlights	• Standard tilt-and-swivel stand • Antireflective screen • Brightness and contrast controls on front
Size	Height—18.5" (with stand), Width—13.15", Depth—14.61", Weight—48.5 lbs.

**When attached to the PS/2 Image Adapter/A.*



IBM Personal System/2 Monochrome Display 8507

Input signal	Analog
Display size	19″ (diagonal measurement)
Display type	Monochrome White-on-black or black-on-white
Palette	Up to 64 shades of gray
Addressability	• 1024 x 768 graphics* • All modes of Displays 8503, 8512, 8513 and 8514
Character size	• 12 x 20 character box text (85 columns x 38 rows)* • 7 x 15 character box text (146 columns x 51 rows)*
Speed	• 35.5 KHz horizontal scan frequency interlaced at 43.5 Hz vertical refresh rate* • Same as Displays 8503, 8512, 8513 and 8514 when operating in those modes
Highlights	• Brightness and contrast controls on front • Standard tilt-and-swivel stand • Antireflective screen
Size	Height—17.75″ (with stand), Width—18.75″, Depth—17″, Weight—51.7 lbs.

**Requires use of IBM Personal System/2 Display Adapter 8514/A for 1024 x 768 screen resolution.*

IBM Personal System/2 Monochrome Display 8508

Input signal	Analog
Display size	19″ (diagonal measurement)
Display type	Monochrome White-on-black or black-on-white
Palette	Up to 16 out of 256 shades of gray
Addressability	• 736 x 724 pels • 736 x 828 pels* • 1360 x 1024 pels • 1600 x 1200 pels*
Character size	• 8 x 16 character box text (MCGA) • 9 x 16 character box text (VGA)
Speed	93.5 Hz noninterlaced refresh rate
Highlights	• Standard tilt-and-swivel stand • Antireflective screen • Brightness and contrast controls on front
Size	Height—17.75″ (with stand), Width—18.75″, Depth—17″, Weight—51.7 lbs.

**When attached to the PS/2 Image Adapter/A.*

IBM Personal System/2 Color Display 8512

Input signal	Analog
Display size	14" (diagonal measurement)
Display type	Color
Palette	Up to 256 out of more than 256,000 colors
Addressability	• 720 x 400 text • 640 x 480 graphics • 320 x 200 graphics
Character size	• 8 x 16 character box text (MCGA) • 9 x 16 character box text (VGA)
Speed	• 31.5 KHz horizontal scan frequency (all modes) • Noninterlaced with up to 70 Hz vertical refresh rate
Highlights	• Tilt-and-swivel stand optional • 6-foot signal cable • Reduced glare • 0.41mm stripe format
Size	Height—14.6" (with stand), Width—14", Depth—15.5", Weight—33 lbs.

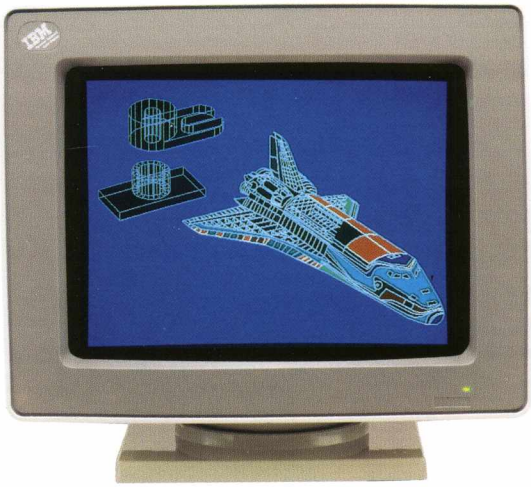
IBM Personal System/2 Color Display 8513

Input signal	Analog
Display size	12" (diagonal measurement)
Display type	Color
Palette	Up to 256 out of more than 256,000 colors
Addressability	• 720 x 400 text • 640 x 480 graphics • 320 x 200 graphics
Character size	• 8 x 16 character box text (MCGA) • 9 x 16 character box text (VGA)
Speed	• 31.5 KHz horizontal scan frequency (all modes) • Noninterlaced with up to 70 Hz vertical refresh rate
Highlights	• Tilt-and-swivel stand standard • 6-foot signal cable • Reduced glare • 0.28mm dot phosphor pitch
Size	Height—12.3" (with stand), Width—12.6", Depth—14.5", Weight—23 lbs.

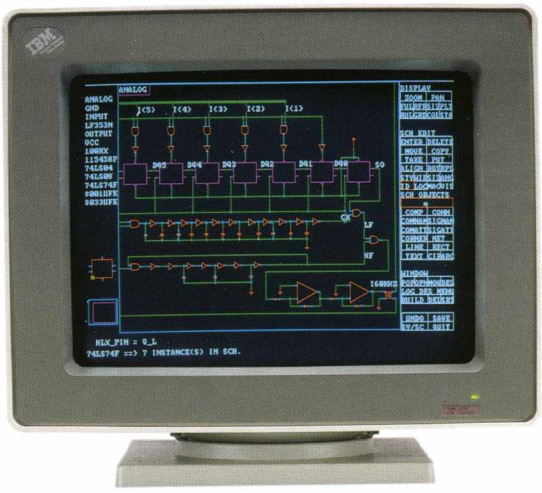
IBM Personal System/2 Color Display 8514

Input signal	Analog
Display size	16″ (diagonal measurement)
Display type	Color
Palette	Up to 256 out of more than 256,000 colors
Addressability	• 1024 x 768 graphics* • All modes of Displays 8503, 8507, 8512 and 8513
Character size	• 12 x 20 character box text (85 columns x 38 rows)* • 7 x 15 character box text (146 columns x 51 rows)*
Speed	• 35.5 KHz horizontal scan frequency interlaced at 43.5 Hz vertical refresh rate* • Same as Displays 8503, 8507, 8512 and 8513 when operating in those modes
Highlights	• Up to 146 columns by 51 rows* • Tilt-and-swivel stand standard • 6-foot signal cable • Reduced glare • 0.31mm dot phosphor pitch
Size	Height—12.6″ (with stand), Width—15.8″, Depth—16.3″, Weight—38.5 lbs.

**Requires use of IBM Personal System/2 Display Adapter 8514/A for 1024 x 768 screen resolution.*



Higher addressability and larger screen size for greater screen content.



When used with an IBM Personal System/2 Display Adapter 8514/A, it allows you to create graphics with unprecedented definition and clarity.

Printers

To provide the finishing touch to the Personal System/2, IBM has again enhanced and expanded its printer family.

The popular Proprinter™ family includes two models that use 24-wire printhead technology for letter-quality printing at excellent print speed, as well as four 9-wire models.

The IBM Quickwriter® Printer is a truly multipurpose printer. With the fabric ribbon, its speed and five-part-forms capability make it an ideal data processing printer. With the optional Selectric® font, film ribbon and one of its three optional cut-sheet feeders, it is an executive-letter-quality printer suitable for an automated office environment or for use with a single workstation.

The Quietwriter® family provides excellent print quality and paper handling in a nonimpact technology that eliminates the use of noisy hammers and printwheels.

The IBM LaserPrinter is a compact laser printer that produces up to 10 pages of high-resolution text and graphics per minute. A wide range of fonts and type sizes is available, as well as state-of-the-art paper-handling features and options. The flexibility to upgrade to PostScript® will be available in the second quarter of 1990.

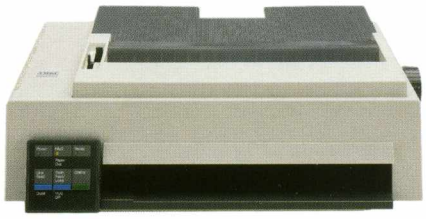
The IBM Personal Page Printer II is a high-resolution laser printer that features PostScript to produce polished letters, graphics, spreadsheets and newsletters. With a variety of printer emulations, flexible attachment to virtually any workstation, and an optional dual input tray and envelope sheet feeder, the Page Printer II is ideal in a sharing environment.

™ Proprinter is a trademark of International Business Machines Corporation.
® Quickwriter, Selectric and Quietwriter are registered trademarks of International Business Machines Corporation. PostScript is a registered trademark of Adobe Systems, Inc.

Proprinter II

Machine number	Model 4201-002
Technology	9-wire matrix
Highlights	• Variable pitches (5, 6, 8.5, 10, 12, 17.1 and proportional) • Standard 4Kb print buffer (8Kb optional) • Forms-load assist • Document on demand and paper-tear assist • APA graphics—144 x 240 dpi* • Operator panel menu selection • Two NLQ fonts
Print speed	• 240 cps (DP Fastfont™) • 200 cps (DP normal) • 100 cps (emphasized) • 40 cps (near-letter-quality)
Paper handling	• Single-sheet feed (manual) • Envelope (manual) • Continuous-forms feed • Forms up to four parts
Carriage	*Standard* • 3-inch to 11-inch paper width for cut sheets • 3-inch to 10-inch paper width for continuous forms • Up to 11-inch envelopes
Size	Height—5.25", Width—16", Depth—13.5", Weight—19 lbs.

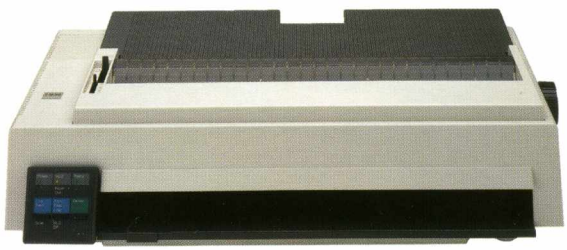
™ Fastfont is a trademark of International Business Machines Corporation.
** Dots per inch.*



Proprinter II XL

Machine number	Model 4202-002
Technology	9-wire matrix
Highlights	• Variable pitches (5, 6, 8.5, 10, 12, 17.1 and proportional) • Standard 4Kb print buffer (8Kb optional) • Forms-load assist • Document on demand and paper-tear assist • APA graphics—144 x 240 dpi* • Operator panel menu selection • Two NLQ fonts
Print speed	• 240 cps (12 cpi, DP Fastfont) • 200 cps (10 cpi, DP normal) • 100 cps (10 cpi, emphasized) • 40 cps (10 cpi, near-letter-quality)
Paper handling	• Single-sheet feed (manual) • Envelope (manual) • Continuous-forms feed • Forms up to four parts
Carriage	*Wide* • 3-inch to 16.5-inch paper width for cut sheets • 3-inch to 15-inch paper width for continuous forms • Up to 16.5-inch envelopes
Size	Height—5.25", Width—22", Depth—13.5", Weight—24 lbs.

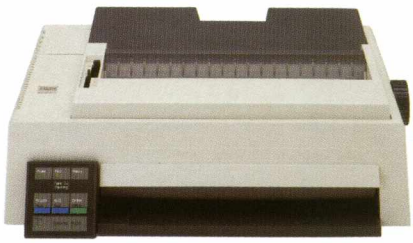
** Dots per inch.*



Proprinter III

Machine number	Model 4201-003
Technology	9-wire matrix
Highlights	• Variable pitches (5, 6, 8.5, 10, 12, 17.1, 20 and proportional) • 7Kb print buffer (optional 32Kb) • Propark one-touch paper parking • Forms-load assist • Document on demand and paper-tear assist • Thee NLQ fonts • APA graphics—144 x 240 dpi*
Print speed	• 320 cps (Fastfont) • 270 cps (draft) • 135 cps (emphasized) • 65 cps (near-letter-quality)
Paper handling	• Single-sheet feed (manual, standard; automatic feed, optional) • Envelope (manual) • Continuous-forms feed
Carriage	*Standard* • 3-inch to 11-inch paper width for cut sheets • 3-inch to 10-inch paper width for continuous forms • Up to 11-inch envelopes
Size	Height—5.25", Width—16", Depth—13.5", Weight—19 lbs.

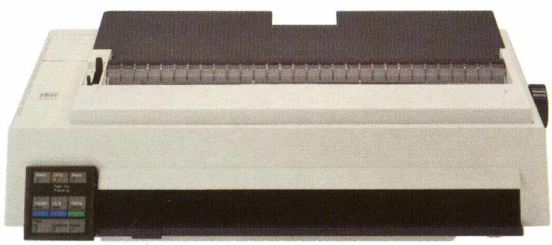
** Dots per inch.*



Proprinter III XL

Machine number	Model 4202-003
Technology	9-wire matrix
Highlights	• Variable pitches (5, 6, 8.5, 10, 12, 17.1, 20 and proportional) • 7Kb print buffer (32Kb optional) • Propark one-touch paper parking • Forms-load assist • Document on demand and paper-tear assist • Three NLQ fonts • APA graphics—144 x 240 dpi*
Print speed	• 320 cps (Fastfont) • 270 cps (draft) • 135 cps (emphasized) • 65 cps (near-letter-quality)
Paper handling	• Single-sheet feed (manual, standard; automatic feed, optional) • Envelope (manual) • Continuous-forms feed
Carriage	*Wide* • 3-inch to 16.5-inch paper width for cut sheets • 3-inch to 15-inch paper width for continuous forms • Up to 16.5-inch envelopes
Size	Height—5.25", Width—22", Depth—13.5", Weight—24 lbs.

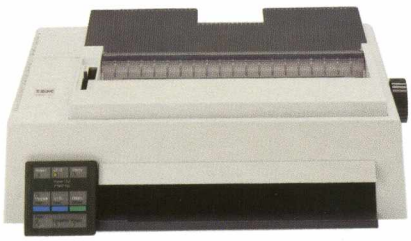
** Dots per inch.*



Proprinter X24E

Machine number	Model 4207-002
Technology	24-wire matrix
Highlights	• Variable pitches (5, 6, 8.5, 10, 12, 17.1 and proportional) • 14Kb print buffer • Letter-quality • Propark one-touch paper parking • Document on demand and paper-tear assist • Forms-load assist • APA graphics—180 x 360 dpi* • Four NLQ fonts • Optional FontSet™ • Enhanced operator control panel
Print speed	• 240-288 cps (draft) • 80-96 cps (letter-quality)
Paper handling	• Single-sheet feed (manual) • Continuous-forms feed • Automatic sheet feed (optional)
Carriage	*Standard* • 3-inch to 11-inch paper width for cut sheets • 3-inch to 10-inch paper width for continuous forms • Up to 11-inch envelopes
Size	Height—5.25″, Width—16″, Depth—13.5″, Weight—20 lbs.

™FontSet is a trademark of International Business Machines Corporation.
**Dots per inch.*



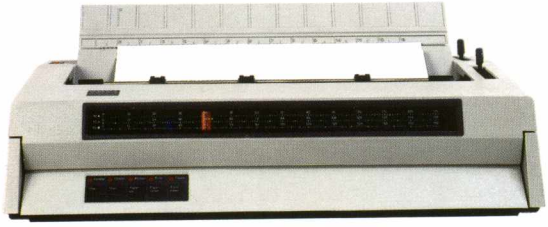
Proprinter XL24E

Machine number	Model 4208-002
Technology	24-wire matrix
Highlights	• Variable pitches (5, 6, 8.5, 10, 12, 17.1 and proportional) • 14Kb print buffer • Letter-quality • Propark one-touch paper parking • Document on demand and paper-tear assist • Forms-load assist • APA graphics—180 x 360 dpi* • Four NLQ fonts • Optional FontSet • Enhanced operator control panel
Print speed	• 240-288 cps (draft) • 80-96 cps (letter-quality)
Paper handling	• Single-sheet feed (manual) • Continuous-forms feed • Automatic sheet feed (optional)
Carriage	*Wide* • 3-inch to 16.5-inch paper width for cut sheets • 3-inch to 15-inch paper width for continuous forms • Up to 16.5-inch envelopes
Size	Height—5.25″, Width—22″, Depth—13.5″, Weight—25 lbs.

** Dots per inch.*

Quietwriter Printer Model 2

Machine number	Model 5201-002
Technology	Resistive ribbon thermal transfer
Highlights	• Nonimpact, quiet letter-quality printing • Drop-in ribbon cartridge • APA graphics • Two online selectable font cartridges
Print speed	40-60 cps
Paper handling	• Semiautomatic single-sheet paper feed • Optional automatic single-drawer sheet feed • Continuous-forms feed
Carriage	*Standard* • 3-inch to 15-inch paper width for cut sheets • 2.5-inch to 14.5-inch paper width for continuous forms
Size	Height—8.5″, Width—21.3″, Depth—14.4″, Weight—22 lbs.

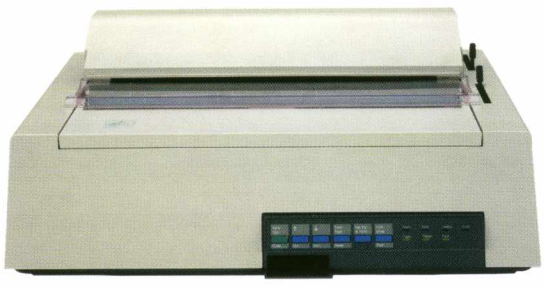


Quietwriter III Printer

Machine number	Model 5202-001
Technology	Resistive ribbon thermal transfer
Highlights	• Nonimpact, quiet letter-quality printing • High-resolution APA graphics • Improved ribbon yield • Up to eight fonts online
Print speed	• 160-274 cps (draft) • 100-171 cps (letter-quality) • 80-136 cps (enhanced)
Paper handling	• Semiautomatic single-sheet insertion (friction) • Adjustable single-bin sheet feed (optional) • Dual-drawer sheet feed (optional) • Envelope option (for use with dual-drawer sheet feed) • Continuous-forms feed (optional)
Carriage	*Wide* 3-inch to 16.5-inch paper width for cut sheets
Size	Height—7.1″, Width—21.7″, Depth—15″, Weight—24 lbs.

Quickwriter Printer

Machine number	Model 5204-001
Technology	24-wire matrix
Highlights	• Faster print/draft throughput speed • Paper-handling versatility • Letter-quality • Up to 12 fonts online
Print speed	• 330-396 cps (DP or draft) • 110-188 cps (letter-quality) • 55-66 cps (Selectric font)
Paper handling	• Semiautomatic single-sheet insertion (friction) • Adjustable single-bin sheet feed (optional) • Dual-drawer sheet feed (optional) • Envelope option (for use with dual-drawer sheet feed) • Continuous-forms feed (optional)
Carriage	*Wide* • 3-inch to 16.5-inch paper width for cut sheets • 3-inch to 14.5-inch paper width for continuous forms (pin to pin)
Size	Height—7.4", Width—21.6", Depth—14.3", Weight—27.5 lbs.



LaserPrinter

Machine number	Model 4019-001
Technology	Electrophotographic laser
Highlights	• Compact general-purpose laser printer • Letter-quality page printer • 300 x 300 dpi* resolution • Optional PostScript upgrade** • 512Kb memory standard (up to 4Mb optional) • 10 resident fonts • High-yield EP cartridge (up to 10,000 pages per cartridge) • Quiet (50 dBA running, 38 dBA idle) • Serial (RS232C) and parallel (Centronics) attachment • Two font card slots • Downloadable soft fonts
Print speed	• Up to 10 pages per minute
Paper handling	• Automatic single-sheet feed (200 sheets) • Optional 500-sheet secondary auto feed • Optional 75-envelope auto feed • Manual feed • 3.875-inch to 8.5-inch paper width • 7.5-inch to 14-inch paper length • Letter, legal transparencies; labels and envelopes
Size	Height—10.26", Width—14.7", Depth—18.5", Weight—33 lbs.

**Dots per inch.*
***Available in second quarter of 1990.*

Personal Page Printer II

Machine number	Model 4216-031
Technology	Electrophotographic laser
Highlights	• 300 x 300-pels-per-inch resolution • Compact PostScript laser printer • 47 resident PostScript typeface styles • Emulations include: –Proprinter XL –Hewlett-Packard® LaserJet PLUS –Diablo® 630 • Automatic emulation switching • Attachment via –Serial (RS232C) –PC Parallel (Centronics) –AppleTalk® • 16.67 MHz Motorola® 68000 microprocessor • 2Mb memory • Additional 2Mb memory (optional) • 52 dBA printing
Print speed	Up to six pages per minute
Paper handling	• Legal, letter, half-letter sizes • Labels, transparencies, envelopes • 150-sheet input drawer • Automatic or manual feed • Dual 200-sheet trays and 50-envelope sheet feeder (optional) • 7″ x 10.5″ to 8.5″ x 14″ paper size • 3.8″ x 7.5″ to 4.5″ x 10.37″ envelope size
Size	Height—8.4″, Width—16.5″, Depth—17.7″, Weight—35 lbs.

®*Hewlett-Packard is a registered trademark of Hewlett-Packard Company. Diablo is a registered trademark of Xerox Corporation. AppleTalk is a registered trademark of Apple Computer, Inc. Motorola is a registered trademark of Motorola Corp.*

Features and options

Compatibility, expansion, functional growth and quality are all attributes that IBM planned for from the beginning. The IBM PS/2 enhancement products are created with the same attention to detail and commitment to quality and reliability as the PS/2 systems.

A variety of enhancements provides coexistence and smooth data exchange between PS/2 models and IBM PCs. An external or internal diskette drive and a special data migration tool are offered to facilitate smooth migration from one to the other.

Growth of your business requires growth in the capabilities of your personal computers. A wide selection of IBM enhancements is offered to expand memory, increase storage capacity, speed up complex calculations, or even provide you with a faster microprocessor... easily and economically.

Other enhancements expand the capabilities of PS/2 models and IBM PCs with functions ranging from optical data storage to synthesized sound.

Best of all, IBM stands behind each PS/2 enhancement product with the same one-year warranty. And when your warranty ends, most of these enhancements are included at no additional charge under your PS/2 system's IBM Service option.

Altogether, these enhancements result in:

- Continuity between past and present
- Growth for the future
- Versatility
- Assurance of IBM reliability, service and support

IBM Personal System/2 Data Migration Facility

Description

A low-cost, easy-to-use connecting tool for file transfers from an installed personal computer with a 5.25-inch diskette drive to a PS/2 model

Operation

- Via the printer cable on existing system and parallel port on a PS/2 model
- Unidirectional from IBM PC, Personal Computer XT,™ XT Model 286, or PC AT to any PS/2 model
- File transfer may be diskette to diskette, fixed disk to fixed disk, or any combination

Product packaging

- 5.25-inch diskette with a send program, the connector itself, and the appropriate instructions for use
- Receive program is included on the 3.5-inch starter diskette packaged with PS/2 Models 30 and 30 286 or the reference diskette packaged with PS/2 Models 50 through 80 386

3.5-inch diskettes

Description

The primary removable storage media used in the Personal System/2 family

- 1Mb per diskette for PS/2 Models 25 and 30
- 2Mb per diskette for PS/2 Models 30 286 through 80 386

Benefits

- Enhanced reliability; durable casing provides data protection
- Increased storage capacity (2Mb diskette)
- Smaller size makes storage easier and simpler and reduces drive-size limitations

™Personal Computer XT is a trademark of International Business Machines Corporation.

IBM Personal Computer 3.5" External Diskette Drive

Description

Diskette drive for IBM PCs that use 720Kb 3.5-inch software and data diskettes to enable sharing of data with PS/2 models or IBM PCs with 3.5-inch drives

Benefits

- Enhances and supports migration to PS/2
- Facilitates coexistence of 5.25-inch diskette-based systems with the PS/2

IBM PS/2 1.44Mb 1-inch High Diskette Drive

Description

This diskette drive provides an extra 1.44Mb of formatted storage capacity in high-density mode. In low-density mode it is compatible with 3.5-inch 720Kb diskette drives. Formats, reads and writes both 1Mb and 2Mb diskettes.

Benefits

Enhances storage capability (twice the capacity of the 720Kb diskette)

Product packaging

- IBM PS/2 1.44Mb 1-inch High Diskette Drive (part #6451026)
- IBM PS/2 1.44Mb 1-inch High Diskette Drive Kit A (part #6451037) required to install on supported systems

Systems supported

PS/2 Models 30-001, -E01

(continued on page 58)

IBM Personal System/2 5.25" External Diskette Drive Model 4869-001 (360Kb)

5.25" External Diskette Drive Model 4869-002 (1.2Mb)

5.25" Internal Diskette Drive Feature 8006 (1.2Mb)

Description

Diskette drives for PS/2 models that use 360Kb (4869-001) or 1.2Mb (4869-002 and Internal Diskette Drive) 5.25-inch software and data diskettes

Benefits

- Enable sharing of data with 5.25-inch diskette-based PCs
- Enhance and support gradual conversion to PS/2 technology
- Provide PS/2 models with immediate access to information stored on 5.25-inch media

Hardware requirements

- IBM 5.25" External Diskette Drive Adapter (attaches 4869-001 to PS/2 Models 25, 30 and 30 286)
- IBM 5.25" External Diskette Drive Adapter/A (attaches 4869-001 to PS/2 Models 50 through 80 386, except Model P70 386)
- IBM 5.25" Diskette Adapter/A (attaches 4869-002 to PS/2 Models 50 through 80 386, or Feature 8006 to PS/2 Models 60 and 80 386)

Systems supported

- External Model 4869-001: all PS/2 models
- External Model 4869-002: PS/2 Models 50 through 80 386
- Feature 8006 (internal): PS/2 Models 60 and 80 386

IBM 3363 Optical Disk Drive

Description

A high-performance optical storage product that uses a 200Mb write-once, removable cartridge about equal in size to a 5.25-inch diskette

Benefits

- Enables storage of large amounts of data in a small package at a low cost
- Expands online data storage; offloads data files
- Provides mobility and security with removable cartridge

Systems supported

- Model A01 (external): PS/2 Models 30 and 30 286, IBM PC, PC XT, XT Model 286, PC AT, 3270 PC, 3270 PC AT
- Model A11 (external): PS/2 Models 50 through 80 386
- Model B01 (external): for attachment to Model A01 or A11 or for use as an internal second drive
- Feature 8700 (internal): PS/2 Models 60 and 80 386

IBM 6157 Streaming Tape Drive

Description

An external, stand-alone tape drive unit to provide backup for fixed disks

Benefits

- Allows fast, convenient save/restore and data interchange capabilities
- Provides data security with removable cartridge
- Enhances migration to PS/2

Hardware/ software requirements

- SY-TOS/IBM Tape Utilities (SY-TOS) Version 3.0 menu-driven software
- IBM 6157 Streaming Tape Drive Adapter
- One ¼-inch data cartridge
  (Model 001: ANSI industry standard X3B5-83.71)
  (Model 002: ANSI industry standard X3B5-84.59)

Systems supported

Model 001: all PS/2 models, IBM PC, PC XT, XT Model 286, PC AT, 3270 PC, 3270 PC AT
Model 002: PS/2 Models 50 through 80 386

(continued on page 60)

Migration and storage products

(continued)

IBM Personal System/2 Internal Tape Backup Unit

Description	A 120Mb tape backup unit that uses ¼-inch tape minicartridges and mounts within the system unit
Benefits	• Supports both DOS and OS/2 • Internally mounted; saves valuable desk-top workspace • Attaches to second internal diskette drive interface—no separate adapter card or external power source required • Enables migration from compatible PS/2-formatted data backups • Available in a convenience kit that includes a menu-driven backup software program
Systems supported	PS/2 Models 50 through 80 386 (except Models 55 SX and P70 386)

Note: For fixed disk options, see page 106.

Image products

IBM 3119 PageScanner Subsystem

Highlights	• Photographs and line-art image capture • Gray-scale (128 levels) and black-and-white images • 300-pels-per-inch scanning • Variable output resolution: 1 to 600 pels per inch • Darkness and contrast adjustments • Flatbed design to accommodate bound documents • 8½ x 11-inch scan area • Includes IBM PageScanner,™ cable, adapter cards and Getting Started Stand-alone Image Capture Program
Hardware requirements	3119 Adapter/A
Systems supported	PS/2 Models 50 through 80 386

IBM 3117 and 3118 Scanners

Highlights	• Line-art image capture • 240-pels-per-inch scanning • 8½ x 11-inch or partial page scan area • Up to 16 levels of gray-scale • Compression ratio of up to 27:1 to reduce storage requirements
Hardware requirements	• 3117 PC Adapter supports attachment of 3117 and 3118 Scanners for PS/2 Models 25, 30, 30 286 • 3117 Adapter/A supports attachment of 3117 Scanner for PS/2 Models 50 through 80 386 (except 70-A61, -A21) • High-speed Adapter/A supports attachment of 3118 Scanner and 3117 Scanner with extension unit for PS/2 Models 50 through 80 386 (except 70-A61, -A21)
Systems supported	All PS/2 models, PC AT, PC XT, 3270 PC

™PageScanner is a trademark of International Business Machines Corporation.

(continued on page 62)

IBM Personal System/2 Image Adapter/A

Highlights

- Single Micro Channel adapter slot for display, printer and scanner*
- Supports all Personal System/2 displays
- Supports all Video Graphics Array (VGA) modes** and the 8514/A advanced function mode
- Other supported modes:
  - –1600 x 1200 pels (4 shades of gray)
  - –1600 x 1200 pels (16 shades of gray)***
  - –848 x 1200 pels (16 shades of gray)
- Optional printer/scanner attachment feature for:**
  - –IBM 3812 Page Printer Model 20
  - –IBM 4216 Personal Page Printer Model 20
  - –IBM 3117 Scanner
  - –IBM 3118 Scanner
  - –Bell & Howell 2115I Copiscan™
- High-speed (8.5 million instructions per second) RISC processor for high-performance image manipulation
- On-card image processing, image compression/decompression
- 1Mb of video RAM and 512KB of instruction RAM on card, standard

Systems supported

PS/2 Models 50 through 80 386 (except Model P70 386)

™ImagePlus is a trademark of International Business Machines Corporation. Copiscan is a trademark of Bell & Howell Co.

**When used with IBM ImagePlus™ Workstation Program Version 1.0.*

***When plugged into PS/2 system unit's VGA video feature slot.*

****IBM PS/2 Image Adapter/A Memory Kit is required.*

IBM Personal System/2 Color Image Adapter/A

Highlights

- Supports IBM 6091 Color Display Model 019 (19"; 1280 x 1024 noninterlaced) and all other Personal System/2 displays
- Supports all Video Graphics Array (VGA) modes* and the 8514/A advanced function mode
- Other supported modes:
  - –1280 x 1024 pels (256 colors or shades of gray)
  - –1600 x 1200 pels (16 shades of gray)
- Up to 256 colors (or 256 shades of gray) out of a palette of 16,000,000 colors
- High-speed (8.5 million instructions per second) RISC processor for high-performance image manipulation
- On-card image processing, image compression/decompression
- 2Mb of video RAM, 1Mb of DRAM, and 512Kb of instruction RAM on card, standard

Systems supported

PS/2 Models 50 through 80 386 (except Model P70 386)

**When plugged into PS/2 system unit's VGA feature slot.*

IBM Personal System/2 Enhanced 80386 Memory Option 2Mb or 4Mb Kit

Highlights

- Supports up to three (any combination) of the 1Mb, 2Mb, and/or 4Mb Memory Module Kits
- Includes a 32-bit, full-length circuit card, and a 2Mb or 4Mb Memory Module Kit
- Supports up to a total of 16Mb on one Option Kit adapter

Systems supported

PS/2 Models P70 386, 70 386, 70 486, 80 386

IBM Personal System/2 2–8Mb 80386 Memory Expansion Option

Highlights

- Provides 2Mb of high-speed (85ns) memory standard
- Supports up to three additional IBM 1Mb or 2Mb Memory Module Kits to provide up to a total 8Mb of memory for each card

Systems supported

PS/2 Models P70 386, 70 386, 70 486, 80 386

IBM Personal System/2 2–8Mb 80286 Memory Expansion Option

Highlights

- Provides 2Mb of high-speed (85ns) memory standard
- Supports up to three additional IBM 1Mb or 2Mb Memory Module Kits to provide up to a total 8Mb of memory for each card
- Includes LIM EMS 4.0 driver

Systems supported

PS/2 Models 50, 50 Z, 55 SX, 60

IBM Personal System/2 80286 Memory Expansion Option

Highlights

- Provides 512Kb of memory standard
- Supports up to three additional IBM 512Kb Memory Expansion Kits to provide a total 2Mb of memory for each card

Systems supported

PS/2 Models 50, 50 Z, 55 SX, 60

IBM Personal System/2 Multifunction Adapter

Highlights

- Provides serial port, parallel printer port, and up to 12Mb extended memory
- Supports up to six IBM 0.5Mb Memory Module Kits or up to six IBM 2Mb Memory Module Kits
- LIM EMS 4.0 support available with the purchase of All Chargecard™ Above Disc™ 2.0

System supported

- PS/2 Model 30 286

™All Chargecard is a trademark of All Computers, Inc. Above Disc is a trademark of Teleware West, Inc.

(continued on page 66)

Memory expansion products

(continued)

IBM 2Mb Expanded Memory Adapter

Highlights

- Provides 2Mb of expanded memory
- Requires and supports device drivers resident within the IBM 3270 Workstation Program Versions 1.0 and 1.1
- Supports up to six DOS applications and/or up to four host sessions concurrently
- Provides application programs with expanded memory support, an Expanded Memory Specification interface, and DOS Virtual Disk interfaces
- Includes parallel port

Systems supported

PS/2 Models 25 and 30, PC XT, PC AT, 3270 PC, 3270 PC AT (PS/2 Model 30 286 and XT Model 286 not supported)

IBM Personal System/2 4Mb Expanded Memory Option

Highlights

- Includes two IBM 2Mb Memory Module Kits
- Includes All Chargecard for LIM EMS 4.0 support
- Can utilize memory addresses between 640Kb and 1Mb

System supported

PS/2 Model 30 286

Note: For part numbers and feature codes, see IBM memory expansion table on page 106.

I/O attachment cards

IBM Personal System/2 Display Adapter

Highlights

Analog display adapter

Video Graphics Array
Same functions as found on the system board of PS/2 Models 50 through 80 386

Color summing

- Color to monochrome (gray shading) conversion
- Automatic display type recognition

Systems supported

PS/2 Model 30, IBM PC, PC XT, XT Model 286, PC AT

IBM Personal System/2 Display Adapter 8514/A

Highlights

- Advanced function analog display adapter
- Supports all Video Graphics Array modes
- Supports all seven Personal System/2 displays

*Advanced function modes**

- 640 x 480 pels
- 1024 x 768 pels (using the 8514 Color Display)
- Advanced text and alphanumeric support (up to 146 columns x 51 rows)
- BITBLT hardware for manipulating images and windows
- Hardware to assist drawing of lines and areas
- Up to 256 colors (or 64 shades of gray) from a palette of more than 256,000 colors (IBM 8514 Memory Expansion Feature required for more than 16 colors)

Systems supported

PS/2 Models 50 through 80 386 (except Model P70 386)

**An adapter interface for easier programming is included.*

(continued on page 68)

I/O attachment cards

(continued)

IBM Music Feature

Highlights

- Stereo FM synthesized sound
- 336 instrument voices
- Eight notes may be played simultaneously
- Headphone connection for private listening
- MIDI interface
- Sound generation independent of system processor
- Amplified speakers or headphones required
- MIDI keyboard recommended

Systems supported

PS/2 Models 25, 30 and 30 286, IBM PC, PC XT, XT Model 286, PC AT

IBM Personal System/2 Speech Adapter

Highlights

- Adds voice capability
- Required nonapplication-oriented software support is incorporated into an internal read-only memory (ROM) module

Systems supported

PS/2 Models 25, 30, 30 286

IBM Personal System/2 300/1200 Internal Modem/A

Highlights

- Asynchronous data transmission
- Supports AT command set
- Compatible with Bell 212A and 103 practice

Systems supported

PS/2 Models 50 through 80 386

IBM Personal System/2 300/1200/2400 Internal Modem/A

Highlights

- Asynchronous data transmission
- Supports AT command set
- Compatible with Bell 212A and 103 practice
- Half-length 16-bit PS/2 Micro Channel adapter

Systems supported

PS/2 Models 50 through 80 386

IBM Personal System/2 486/25 Power Platform

Highlights

- Provides 25 MHz i486 microprocessor performance
- Integrated 8Kb memory cache
- Integrated math co-processor
- 100 percent binary compatible with 386 applications
- Built-in diagnostics

Systems supported

PS/2 Models 70-A61, -A21

IBM PS/2 Multi-Protocol Adapter/A

Highlights

- Supports async, bisync, HDLC or SDLC protocols, half- or full-duplex serial transmission
- Automatic protocol switching via software
- Fully programmable at speeds up to 19.2Kbps

Systems supported

- PS/2 Models 50 through 80 386

(continued on page 70)

I/O attachment cards

(continued)

IBM PS/2 Dual Asynchronous Adapter/A

Highlights

- Provides multiuser attachment on two independent RS232C ports
- Fully programmable at speeds from 50 to 19,200bps
- Supports signal transmission across 50 feet of cable

Systems supported

- PS/2 Models 50 through 80 386

IBM PS/2 Wizard Adapter

Highlights

- 33 MHz i860™ RISC processor
- 2Mb on-board memory
- Optional 6Mb expansion card
- Application accelerator for OS/2 and AIX

Systems supported

PS/2 Models 70 386 and 80 386

™ i860 is a trademark of Intel Corporation.

Multimedia cards

Audio Capture and Playback Adapter

Audio Capture and Playback Adapter/A

Highlights

- Provides stereo audio capture at 44.1 KHz sampling rate
- Includes software volume control
- Includes two output jacks: speakers/headphones and line level (amplifier, tape)
- Includes two input jacks: microphone and line (VCR, videodisc, CD)
- Provides on-board programmable digital signal processor (DSP)

IBM applications software supported

- Audio Video Connection (AVC) Version 1.0
- IBM Multimedia API for DOS
- IBM Multimedia API for OS/2
- PS/IWPS Version 2.0
- Learning System/1 Version 2.0
- Multimedia Delivery System for DOS

Systems supported

- Audio Capture and Playback Adapter: PS/2 Models 25 through 30 386
- Audio Capture and Playback Adapter/A: PS/2 Models 50 through 80 386

Video Capture Adapter/A

Highlights

- Enables user to capture high-quality, photolike video images
- Allows full-frame capture from motion video in 1/30 second
- Supports standard video inputs: NTSC, RGB or Y/C (Super VHS)
- Includes 614Kb dual-ported video RAM buffer
- Provides video capture resolution of 640 x 480 x 16 bits

IBM applications software supported

- Audio Video Connection (AVC) Version 1.0
- IBM Storyboard Plus Version 2.00

Systems supported

PS/2 Models 50 through 80 386

Software

IBM's software offerings provide new and higher levels of functions plus greater ease of use. They also set the stage for smooth integration of systems and applications. Nowhere is this more apparent than in IBM Operating System/2—IBM's advanced operating system for Personal System/2.

OS/2 offers compatibility with DOS 3.3 and 4.0, as well as with IBM Local Area Network (LAN) and host communications software programs. And it allows you to use a wide selection of programming languages to build new applications in the OS/2 environment.

In addition, the AIX PS/2 Operating System licensed program is a member of the IBM AIX family of operating systems. AIX PS/2 is a multiuser, multitasking virtual memory operating system for the 80386- and i486-based Personal System/2 models (55 SX, P70 386, 70 386, 70 386 with the i486 option, 70 486 and 80 386). It provides UNIX™ functions on the PS/2 and can operate with up to 16 concurrent users.

IBM DOS (Disk Operating System) is the most popular operating system for single-task applications. The latest DOS release, Version 4.0, delivers expanded memory support, enlarged file capacity for fixed disk storage, enhanced video and graphics capabilities, and more.

™UNIX is a trademark of AT&T.

IBM Operating System/2

IBM's announcement of Operating System/2 brought a new generation of operating systems to personal computing. This family of operating systems provides expanded application and user support allowing for the complete utilization of IBM 80286-, 80386- and i486-based (supported in 80286 mode) systems. The ability to handle larger programs and to process those programs concurrently represents one of the most significant advancements ever in personal computing. OS/2's high level of compatibility with DOS simplifies implementation and provides coexistence with DOS. Furthermore, OS/2 takes a step closer toward consistency with other IBM systems as the first participant in IBM Systems Application Architecture.

IBM Operating System/2 Standard Edition Versions 1.1 and 1.2

This multitasking operating system breaks the memory barrier by providing addressability up to 16Mb. It offers the ability to run multiple applications concurrently. A Presentation Manager™ for graphics and windowing functions is incorporated in the Standard Edition.

Highlights

Operating systems for IBM 80286- and 80386-based systems
- 16Mb memory addressability
- Multitasking/multiapplication
- Support for file sizes up to 512Mb (2 gigabytes in Version 1.2)

Participant in Systems Application Architecture (SAA)
- Common user interface
- Common programming interface

Versatility
- Print spooler to allow multiple applications to print concurrently

™ *Presentation Manager is a trademark of International Business Machines Corporation.*

- PostScript device driver for 4216-030 and 4216-M30 Page Printer IIs included in Version 1.2
- System editor to replace line editor (windowed in Version 1.2)

Enhanced usability
- Graphics-based window facility
- Pop-up windows
- Contextual help
- Online command reference (Version 1.2)

IBM DOS Version 3.3 (and 4.0 in OS/2 Version 1.2) compatibility
- Coexistence
- Migration aids
- DOS emulation
- File system compatibility
- Familiar command set

Desktop Manager/File Manager (Version 1.2)
- Iconic views
- Direct manipulation
- Start DOS programs

High Performance File System (Version 1.2)
- Files and partitions up to 2 gigabytes
- Less performance sensitivity as files grow

Dual Boot Facility (Version 1.2)
- Capacity to boot either OS/2 or DOS from the same fixed disk
- File Allocation Table (FAT) file system only

OS/2 Presentation Manager
- Window management, graphics support and ease-of-use features for OS/2 applications
- Easy method to interchange files with host-based GDDM files
- Common User Access (CUA) component of SAA implemented; complement to IBM's strategic host graphics offerings
- Device-independent programming interface for application development
- Direct data exchange capability between multiple concurrent operations as well as cut-and-paste

(continued on page 76)

- Support for multiple output devices, graphics drawing and window management facilities, typographical fonts, raster operations and fast alphanumeric text
- Integrated part of Standard Edition and Extended Edition
- Utilities for printing, plotting, displaying and interchange of picture files

Online Command Reference
- Command Reference now available online
- Book metaphor preserved
- "At your fingertips"

Warranty and service plan
- Three-month program warranty, including replacement, correction or refund
- Program services in place for 12 months from availability date

IBM Operating System/2 Programming Tools and Information Version 1.2

Highlights

- OS/2 Programmer Toolkit and OS/2 Technical References combined
- Toolkit functions that improve programmer productivity for creating OS/2 applications
- Tools for creating dynamic link libraries and applications
- Programming aids for IBM Macro Assembler/2 and IBM C/2
- Presentation interface tools to assist in screen generation in a graphics and windowing environment
- Utilities to allow the development of programs that will run interchangeably in either OS/2 or DOS environments
- A Dialog Manager, including programming aids, and a Dialog Tag Language Compiler to assist programmers in developing text-based Presentation Manager applications
- New sample programs illustrating useful programming techniques
- New language-specific information and bindings added for the use of COBOL/2 and FORTRAN/2 with Presentation Manager
- OS/2 Information Presentation Facility Compiler for building help panels and tutorials

IBM Operating System/2 Extended Edition Versions 1.1 and 1.2

This edition of OS/2 provides a Communications Manager component that supports a broad range of communications capabilities. It also offers a Database Manager component that supports the IBM relational data base model. In addition, it offers all the operating functions provided by Operating System/2 Standard Edition.

Highlights

Communications Manager
- *3270 connectivity*
  Taps the power of IBM System/370™ host computers in both SNA and non-SNA modes
- *ASCII terminal emulation*
  Permits the workstation to act as an IBM 3101 or DEC™/VT™100 terminal and supports asynchronous file transfer
- *Advanced Program-to-Program Communications support*
  Opens the door to distributed applications, so the workstation can team up with other IBM systems to tackle complex tasks
- *Packet-switching support*
  Provides access to low-cost X.25 links to remote systems
- *Emulator High Level Language API*
  Simplifies complex tasks in workstation-to-host communications in 3270 and 5250 WSF environments

Additional functions, Version 1.2:
- *SNA LAN Gateway*
  Enables a workstation to support host access for up to 254 link stations on the IBM Token-Ring Network, PC Network and Ethernet™ LAN
- *5250 Workstation Feature*
  Allows up to five terminal or printer sessions to run with the AS/400™ and System/36™

™System/370, AS/400 and System/36 are trademarks of International Business Machines Corporation. DEC and VT are trademarks of Digital Equipment Corporation. Ethernet is a trademark of Xerox Corporation.

(continued on page 78)

- *Ethernet LAN support*
  Provides connections to many widely used networks
- *3270 connectivity*
  Furnishes access to host graphics and directs printing to either System/370 or workstation printers
- *Clipboard capability*
  Makes it easy to cut and paste data between multiple 3270 sessions and copy data from ASCII sessions

Database Manager

- *Relational Database Structured Query Language support*
  Includes powerful high-level data definition and manipulation language used in IBM host data base programs, such as DB2
- *Database Services*
  Includes storage access methods, SQL statement processing, transaction management, recovery services and concurrency control
- *Query Manager*
  Helps less-experienced data base users develop data entry/retrieval applications
- *SQL Query Management Facility (SQLQMF)*
  Imports data from the IBM DB2 and SQL/DS host relational data bases with QMF installed
- *Data conversion utilities*
  Exchange/import data with other applications, such as Lotus® spreadsheets and IBM DisplayWrite™ 5/2

Additional functions, Version 1.2:

- *Remote Data Services*
  Allows access to data located in relational data bases on other workstations via IBM Token-Ring Networks, PC Networks or Ethernet LANs
- *DOS Database Requester*
  Allows DOS workstations to access information through Extended Edition's Database Manager

® Lotus is a registered trademark of Lotus Development Corporation.
™ DisplayWrite is a trademark of International Business Machines Corporation.

LAN Requester

- *Transparent access to LAN resources*
  Includes disk space, printers, processing capabilities and serially attached devices
- *Program support*
  Provides requester support with OS/2 LAN Server Program on IBM Token-Ring and PC networks

IBM Disk Operating System

Since the introduction of the IBM Personal Computer, DOS has proved to be an operating system capable of supporting a wide range of end-user environments from personal productivity to education to specialized applications. Key to the acceptance of DOS has been the open architecture and the application compatibility that IBM has maintained. DOS Version 3.3 and Version 4.0 demonstrate IBM's continuing commitment to the DOS environment by the addition of function, compatibility and the continuation of its open architecture.

Version 3.3 highlights

- Support for the IBM PC family
- Support for the PS/2 family
- DOS 3.2 compatibility
- Enhanced system commands
- Increased number of opened files
- Increased number of communications ports (four)
- Support for multiple 32Mb disk partitions
- Base for enhanced connectivity
  - 3270 Communications family
  - IBM Local Area Network (LAN) products
- Base for 3270 Workstation Program enhanced function
- Support for 11 national languages
- Technical Reference Manual

Version 4.0 highlights

- Support for files greater than 32Mb, allowing a single file to be as large as the media
- DOS Shell: group, file and directory services that are user-friendly alternatives to command prompt line
- Expanded Memory Support: memory addressing above 640Kb
- Extended National Language Support: 14 languages
- 19 keyboard layouts
- Display of more than 25 lines of text

(continued on page 80)

AIX Personal System/2 (AIX PS/2)

AIX PS/2 provides powerful, cost-effective solutions in a wide range of user environments, from small-business multiuser systems to networked enterprise workstations. With software support for both business and technical professional users, AIX PS/2 is an excellent base for applications in all industries. As a member of the AIX family of products, AIX PS/2 provides the entry point to unlimited growth and unparalleled scalability, from the PS/2 through IBM's RISC processors to the largest ES/3090.™

Many of the AIX features listed as highlights are available from IBM as separately priced offerings.

Highlights

- IBM's strategic UNIX operating environment for IBM 80386- and i486-based systems
- Member of the IBM AIX family of operating systems
  - –Consistent implementation from PS/2 through 3090
  - –Implements industry standards
- Support for up to 16 concurrent users
- 32-bit virtual memory addressing
- C, VS COBOL, VS FORTRAN, VS Pascal languages
- Text and mail processing
- Windowing and graphics
- Support for multiple users of existing DOS applications
- Distributed data base management
- Powerful distributed processing
  - –Single system image
  - –Remote files and devices
  - –Remote processes
  - –OEM interoperability with NFS™
- Token-Ring and Ethernet LAN TCP/IP support
- Async and X.25 communications
- 3278/79 Emulation
- XENIX® source compatibility
- National Language Support

™ 3090 is a trademark of International Business Machines Corporation. NFS is a trademark of Sun Microsystems, Inc.
® XENIX is a registered trademark of Microsoft Corporation.

IBM PS/2 RPG II Application Platform Version 1.1

IBM PS/2 RPG II Application Toolkit Version 1.1

The large library of RPG II applications can be brought together with the price/performance of Personal System/2 for more–cost-effective business solutions. The PS/2 RPG II Application Platform provides the ability to run RPG II programs on a Personal System/2 using OS/2, in a variety of multiuser execution environments. Support is provided for up to 16 workstations; up to eight serially attached workstations plus DOS or OS/2 LAN workstations on the IBM Token-Ring or PC network—up to a total of 16 workstations. A total of 16 workstations, plus the system console, are supported with a single license.

The PS/2 RPG II Application Toolkit provides the RPG II Compiler Screen Design Aid and Development Support Utility required to convert existing RPG II applications or develop new ones for the PS/2-OS/2 environment. (The RPG II Application Platform is a prerequisite for the RPG II Application Toolkit.)

Highlights

- Full compatibility with RPG II Platform and Toolkit Version 1.0
- Support for LAN-connected workstations via IBM Token-Ring or PC networks; a total of 16 workstations supported, including up to eight serially attached workstations
- Enhanced print spooler and data management capabilities
- Save/Restore functions
- Messaging between workstations

(continued on page 82)

Systems supported

- PS/2 RPG II Application Toolkit Version 1.1 software executes on: PS/2 Models 50 through 80 386 using OS/2 Standard or Extended Editions 1.1 or 1.2 and PS/2 RPG II Application Platform Version 1.1
- PS/2 RPG II Application Platform Version 1.1 software supports multiple users on: PS/2 Models 50 through 80 386 using OS/2 Standard or Extended Editions 1.1 or 1.2; for LAN support, OS/2 LAN Server 1.0 required with OS/2 Extended Edition
- Workstations supported are:
  - –3151 ASCII Display (Cartridge for Multi-user System Attachment required for Models 3X and 4X)—serial attachment only
  - –Any PS/2 model with the Enhanced Keyboard*
  - –PC AT Model 339;* PC XT Model 286*

IBM BASIC Compiler/2

Highlights

- Operating systems
  - –Operating System/2
  - –DOS Versions 3.3 and 4.0
- Concurrent operation with other applications in OS/2 multitasking environment
- Common language interface that allows calling routines coded with the IBM C/2, the IBM Pascal Compiler/2, or the IBM Macro Assembler/2
- Interactive symbolic debugger

IBM FORTRAN/2

Highlights

- Operating systems
  - –Operating System/2
  - –DOS Versions 3.3 and 4.0
- Concurrent operation with other applications in OS/2 multitasking environment
- High degree of functional compatibility with IBM Professional FORTRAN V1.3
- Math Co-Processor and Math Co-Processor emulation
- ANSI Standard X3.9-1978 design specifications
- Interactive symbolic debugger

**Requires PS/2 Enhanced Keyboard.*

IBM Pascal Compiler/2

Highlights

- Operating systems
  - –Operating System/2
  - –DOS Versions 3.3 and 4.0
- Concurrent operation with other applications in OS/2 multitasking environment
- Functionally compatible with IBM Pascal Compiler Version 2.0
- Capability for a compiled Pascal program to call programs written in IBM Macro Assembler/2 or IBM C/2
- Interactive symbolic debugger

IBM COBOL/2

Highlights

- Operating systems
  - –Operating System/2
  - –DOS Versions 3.3 and 4.0
- Concurrent operation with other applications in OS/2 multitasking environment
- ANSI X3.23-1985, ISO 1979-1985 (intermediate level) design specifications
- Participant in Systems Application Architecture
- Interactive symbolic debugger

IBM C/2

Highlights

- Operating systems
  - –Operating System/2
  - –DOS Versions 3.3 and 4.0
- Concurrent operation with other applications in OS/2 multitasking environment
- Compatibility with IBM Personal Computer C Compiler Version 1.0, plus many additional features
- Participant in Systems Application Architecture
- Interactive symbolic debugger

(continued on page 84)

IBM Macro Assembler/2

Highlights

- Operating systems
  - –Operating System/2
  - –DOS Versions 3.3 and 4.0
- Concurrent operation with other applications in OS/2 multitasking environment
- Compatibility with IBM Personal Computer Macro Assembler Version 2.0: function, source code and object code files
- Library manager to facilitate the creation and maintenance of libraries
- Structured Assembly Language Utilities
- Interactive symbolic debugger

IBM 3270 Workstation Program Version 1.1

Highlights

- IBM 3270 Personal Computer Control Program Version 3 function extended to selected IBM Personal Computers and the Personal System/2 family:
  - –Multitasking
  - –Up to four host sessions
  - –Up to six DOS sessions
  - –Up to two notepad sessions
- Expanded memory support (up to 2.25Mb) with IBM 2Mb Expanded Memory Adapter or IBM Personal System/2 80286 Expanded Memory Adapter/A
- Expanded Memory Specification support
- Virtual Disk support
- Windowing
- LAN support (Token-Ring and PC Network)
- Enhanced Connectivity Facilities support (SRPI)
- Additional display and graphics support
- Application Programming Interfaces (API) and High Level Language API (HLLAPI)
- Integrated host graphics (3270 PC)
- Host graphics (via GDDM-PCLK)
- Improved memory flexibility (over Version 1.0) in PS/2 and DOS session size and multiple Expanded Memory Specification sessions (Lotus/Intel/Microsoft® EMS)
- Support for the IBM 9370 Processor and the 3720 Communications Controller as Token-Ring gateways for host access, using IEEE/802.2 protocols
- Keyboard Definition Utility support for the Enhanced Keyboard when attached to the PS/2 Model 30 or the IBM PC XT and PC AT, allowing users to move functions from one key to another to suit individual needs

Systems supported

- PS/2 Models 30 through 80 386, PC XT, PC AT, 3270 PC, 3270 PC AT
- National Language Support

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(continued on page 86)

IBM 3270 PC High Level Language Application Program Interface (HLLAPI) Version 3.1

Highlights

- HLLAPI Version 3.1 is enhanced to include C language and National Language Support (previously announced and supported by IBM 3270 Workstation Program Version 1.0)
- Supports the IBM 3270 Workstation Program Version 1.1

Systems supported

PS/2 Models 30 through 80 386, PC XT, PC AT, 3270 PC, 3270 PC AT

IBM Personal Communications/3270

Highlights

- Support for up to eight concurrent host display or print sessions
- Connectivity options: SDLC, IBM Token-Ring (IEEE 802.2), and Distributed Function Terminal (DFT)
- Simultaneous host session support on all three links
- SNA gateway feature that enables a workstation to act as host gateway on an IBM Token-Ring for both DOS and OS/2 workstations
- Support for up to 253 preallocated or pooled logical units or sessions when configured as a gateway
- File transfer via IBM 3270 PC File Transfer Program
- Network management support through IBM LAN Manager program to the host-based IBM NetView™ network management system
- Host graphics support with IBM GDDM-PCLK Version 1.1
- Emulator High Level Language Application Interface (EHLLAPI)

Systems supported

- All PS/2 models, IBM PC, PC XT, XT Model 286, PC AT

™NetView is a trademark of International Business Machines Corporation.

IBM PC 3270 Emulation Program Entry Level Version 1.2

Highlights

- Provides 3278/3279 Emulation for accessing System/370 host applications
- Minimal memory required (approximately 26Kb)
- Dual task support
  - Simultaneous DOS program and host access
- Control unit terminal (CUT) mode attachment
- Entry Emulator High Level Language Application Program Interface (EEHLLAPI)
- Host graphics (via GDDM-PCLK)
- Enhanced Connectivity Facilities support
- National Language Support

Systems supported

All PS/2 models, IBM PC, PC XT, XT Model 286, PC AT

IBM PC 3270 Emulation Program Version 3.0

Highlights

- Wide variety of connectivity options
  - Single station communications support: 3278/3279/3287 Emulation via SDLC, 3X74 (BSC or SDLC), or Token-Ring
  - Local/remote LAN gateway and network station support: SDLC, 3X74 (BSC or SDLC), Token-Ring, PC Network
- Dual-tasking and auto-key function
- Host graphics (via GDDM-PCLK)
- Enhanced Connectivity Facilities support
- Host-initiated print

Systems supported

All PS/2 models, IBM PC, PC XT, XT Model 286, PC AT

(continued on page 88)

IBM 5520 Personal System/2 Attachment Program Version 1.0

IBM 5520/Personal Computer Attachment Program Version 4.0

Highlights

- Allow IBM personal computers to operate as online 5253 terminals connected to an IBM 5520 system
- Provide keystroke capability to switch quickly between DOS and 5520 system applications
- Provide 3270 Emulation access capabilities to an IBM System/370 host connected via the IBM 5520 system

Systems supported

5520 Personal System/2 Attachment Program Version 1.0
PS/2 Models 50 through 80 386

5520/Personal Computer Attachment Program Version 4.0
PS/2 Models 25, 30 and 30 286, IBM Portable PC, IBM PC, PC XT, XT Model 286, XT 370, PC AT, PC 3270, Personal Typing System

IBM Enhanced 5250 Display Station Emulation Version 2.2

Remote 5250 Emulation Program Version 2.0

IBM System 36/38 Workstation Emulation Program Version 1.0

Highlights

- Allow IBM personal computers to operate as online 5250 terminals connected to an IBM System/36, System/38™ or AS/400
- Provide "hot key" capability to switch quickly between DOS and System/36, System/38 or AS/400 applications
- Permit two host sessions to be run at the same time
- Allow host applications to be printed out at the personal computer workstation
- Support workstation printers through Table Driven Printer processing
- Remote 5250 Emulation provides 5250 Emulation access capabilities to an IBM System/36, System/38 or AS/400 by emulating the function of the IBM 5294 or 5394 Remote Control Unit at speeds of up to 19,200 bps (PS/2 Models 50 through 80 386)

Systems supported

IBM Enhanced 5250 Display Station Emulation Version 2.2
PS/2 Models 25, 30 and 30 286, IBM Portable PC, IBM PC, PC XT, XT Model 286, PC AT, Personal Typing System

Remote 5250 Emulation Program Version 2.0
All PS/2 models, IBM Portable PC, IBM PC, PC XT, XT Model 286, PC AT

IBM System 36/38 Workstation Emulation Program Version 1.0
PS/2 Models 50 through 80 386

™System/38 is a trademark of International Business Machines Corporation.

EASEL for Operating System/2 Extended Edition

Highlights

- Provides a highly productive programming facility for migration of host applications user interface from terminal to programmable workstation
  - Interactive CUA
  - High-level language
- Supports OS/2 Extended Edition Communications Manager
- Provides business graphics routines
- Provides National Language Support

LAN adapters for the Personal System/2 family

Token-Ring Network

- Token-Ring Network PC Adapter II
- Token-Ring Network 16/4 Adapter
- Token-Ring Network Trace and Performance Adapter II
- Token-Ring Network Adapter/A
- Token-Ring Network 16/4 Adapter/A
- Token-Ring Network Trace and Performance Adapter II/A

PC Network Broadband

- PC Network Adapter II
- PC Network Adapter II Frequency 2
- PC Network Adapter II Frequency 3
- PC Network Adapter II/A
- PC Network Adapter II/A Frequency 2
- PC Network Adapter II/A Frequency 3

PC Network Baseband

- PC Network Baseband Adapter
- PC Network Baseband Adapter/A

IBM Operating System/2 Local Area Network Server Version 1.2

Highlights

- Local area networking capabilities
- Nondedicated server with security, print and message administration, and status services
- Resource sharing for disks, printers and serially attached devices
- Facilities for defining, controlling and managing access to local area network resources
- Protect mode, multitasking and large memory support
- NETBIOS interface in Communications Manager to communicate across the LAN
- Workstation access to Server via LAN requester function
- DOS LAN requester (DLR) and LAN Support Program for 128 workstations included

(continued on page 92)

IBM Local Area Network Program Version 1.3

Highlights

- Resource sharing of disks, files and printers for interconnected workstations in the DOS environment on the IBM Token-Ring and PC Networks
- Increased NETBIOS sessions (up to 254, depending on the LAN adapter and device driver)
- New levels of security, including user log-on with optional encrypted password
- Extended Services enhancements to LAN resource definition and control, including a new application selector panel for customizing the user's view of the system
- Requester function supported by OS/2 LAN Server Program
- Remote IPL support of DOS to appropriately configured PS/2 and IBM PC systems

IBM Token-Ring Network Bridge Program Version 2.0

Highlights

- Single logical network of 4- and 16Mbps Token-Ring Networks
- Network management enhancements with notifications and reports to IBM LAN Manager Version 2.0
- Automatic configuration for single-route broadcast
- Ring status and fault domain information for both hard and soft error conditions
- Performance statistics, ring status and configuration reports
- Transparent communication using source routing across the bridge to applications written to the IEEE 802.2 Logical Link Control interface

IBM Token-Ring Network Bridge Program Version 2.1

Highlights

- All features of Version 2.0
- Remote bridge capability
- Single logical network through telephone lines that connect local and remote IBM Token-Ring Networks
- Data rates from 9.6Kbps to 1.344Mbps

IBM PC Network Bridge Program

Highlights

- Connection of broadband PC Network LAN segments to each other or to 4- or 16Mbps IBM Token-Ring Network segments
- Communication to hosts connected to the IBM Token-Ring Network

IBM LAN Manager Version 2.0

Highlights

- Network program for management of mixed networks (IBM Token-Ring Networks and broadband PC Networks interconnected by IBM Local Area Network bridge programs)
- Exchange of alert and command information with NetView Release 3, using IBM Operating System/2 Extended Edition 1.1's Communications Manager function
- Utilization of NetView/PC Version 1.2 in multiple network management environments where NetView/PC is required

IBM LAN Manager Entry Version 1.0

Highlights

- Single-segment networks (IBM Token-Ring Networks or IBM PC Networks, baseband or broadband) managed by NetView Release 3
- Utilization of IBM Operating System/2 Extended Edition Version 1.1's Communications Manager function to exchange alert and command information with NetView, facilitating centralized management of remote LANs

IBM Personal System/2 Graphics Workstation Program

Highlights

- Provides migration for applications from the IBM PC AT G and GX with Graphics Control Program Version 3.1 to PS/2 Models 50 through 80 386 under DOS 3.3 and DOS 4.0
- Up to four concurrent interactive GDDM host graphics sessions and two notepad sessions
- Support for a range of graphics devices, including RS232 plotters, printers and a PS/2 Mouse
- Virtual Disk support
- Graphics procedure interface supported by five language bindings (Assembler, BASIC, FORTRAN, Pascal, C)
- 12-function HLLAPI subset support
- Enhanced Connectivity Facilities support (SRPI)
- LAN support (Token-Ring)
- Windowing
- Supports 9Mb extended memory
- Requires use of IBM Display and 8514/A Display Adapter

Graphics Development Toolkit Version 1.2

Highlights

- Contains application programming interface for a device-independent graphics environment
- Ten additional Virtual Device Interface (VDI) device drivers
  - –PS/2 integrated display adapter and PS/2 Display Adapter—640 x 480, 16 colors
  - –PS/2 integrated display adapter and PS/2 Display Adapter—640 x 480, 2 colors
  - –PS/2 integrated display adapter and PS/2 Display Adapter—320 x 200, 256 colors
  - –PS/2 Model 30—640 x 480, 2 colors; 320 x 200, 256 colors
  - –PS/2 Model 30 286—640 x 480, 16 colors; 320 x 200, 256 colors
  - –Quietwriter III
  - –6180 Color Plotter
  - –PS/2 Mouse
- Packaged with 5.25-inch and 3.5-inch diskettes

IBM Operating System/2 Graphics Development Toolkit

Highlights

- Powerful, flexible productivity tool for application developers writing graphics programs for OS/2
- Operates in and supports VDI application development for OS/2's multitasking and 16Mb environment
- Software font support
- Additional vector drawing functions
- Improved text handling
- Device independence at source code level
- Minimal conversion effort for existing VDI applications

GDDM-PCLK Version 1.1

Highlights

- Together with the host GDDM-PCLK feature, enables a GDDM host application to link to the IBM PC, 3270 PC or PS/2 with the new or existing 3270 terminal emulators as a graphics terminal
- Supports most GDDM Version 2 functions, including windowing and image
- Display, print and plot to attached devices
- Simple transfer of Picture Interchange Format (PIF) to local file
- Interactive Chart Utility (ICU) and other GDDM applications run without change
- Requires a 3270 terminal emulator (IBM PC 3270 Emulation Program Entry Level Version 1.2, 3270 Display Station Emulation Program Version 3.0, or 3270 Workstation Program Version 1.1)

GDDM-OS/2 Link Version 1.0

Highlights

- GDDM-PCLK function in OS/2 Extended Edition Version 1.2 environment
- SAA operating environment
- OS/2 facilities
- GDDM control functions
- Creation of interchange files, PIF and OS/2 Presentation Manager metafiles

TextReader™

Highlights

- Optical character recognition (OCR) program
- Reads typewritten or printed page
- Substitute mode for unrecognized characters
- Font tuning for font variation
- Font recognition:
  - 10-pitch—Courier, Pica, Prestige Pica, Orator, Gothic Bold, Gothic Text, Serif Text
  - 12-pitch—Courier, Elite, Prestige Elite, Letter Gothic, Gothic Bold, Gothic Text, Serif Text, OCR-B
  - Proportional—Roman, Title, Boldface
- ASCII and RFTDA file output
- Supports 3117 and 3118 Scanners and 3119 PageScanner
- Runs in Windows 2.03 environment

ImagEdit™ Version 2.0

Highlights

- Image scanning and editing
- Partial page scanning
- Pel-by-pel editing, flipping and rotating functions
- Cut-and-paste and paint-and-draw functions
- Text annotation
- Enlarge/reduce, lightness/darkness and contrast controls
- TIFF (Tag Image File Format) or IMDS (Image Data Stream) output files
- Zoom/scroll viewing
- Supports 3117 and 3118 Scanners, 3119 PageScanner and other equipment manufacturers' scanners
- Runs in Windows 2.03 environment

™ TextReader and ImagEdit are trademarks of International Business Machines Corporation.

IBM Interleaf™ Publisher 1.0.1

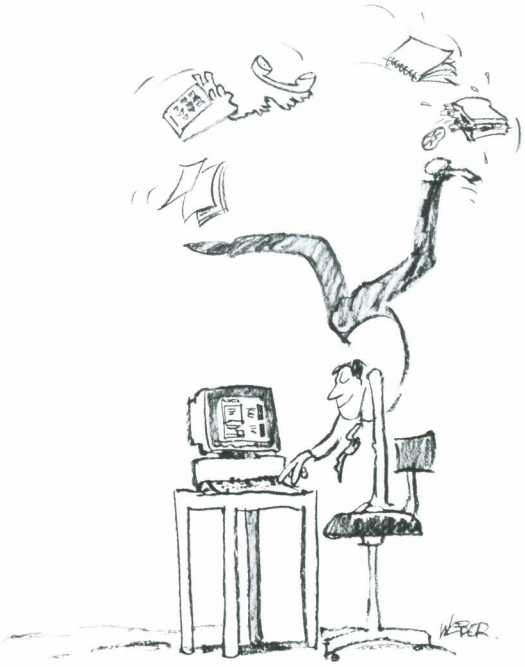
Highlights

- Ability to create one-page memo as well as 3,000-page manual
- Easy and fast revision capability
- Full-function WYSIWYG (What-you-see-is-what-you-get)
- Complete text, graphics, business charting and image editing in one package
- Productivity tools designed for new user
- PostScript output—Personal Page Printer II (Model 4216-031) supported
- Imports from many popular text and graphics packages
- Typography and composition support
  - Auto TOC, indexing, cross-referencing and list numbering
  - Super- and subscript annotation
  - Spell check and dictionary
  - Up to 14 columns
  - Revision tracking
  - Search and replace
- Book facility
- Text justification
- Zoom to 16 times original
- 2Mb RAM required
- 18 or 29Mb hard file required for limited or full-font installation (additional space required for document storage)
- IBM Interleaf Publisher Data Export, aiding in document conversion and upload to Publishing Systems Master Series

Systems supported

PS/2 Models 55 SX, 70 386, 70 486, 80 386

™ Interleaf is a trademark of Interleaf, Inc.



Product summary

The Personal System/2 family, with its wide range of features and functions, can meet your current needs and can support your plans for tomorrow.

Here are some of the advantages these systems offer:

- **Help in protecting your investment in IBM personal computing products**
- **Integration of 3270 and PC functions**
- **Micro Channel architecture for fast, efficient data flow and concurrent operations**
- **High levels of capability and function**
- **Platforms for strategic growth**
- **Total systems solutions**

Personal System/2

Model 25

- Price/performance (vs. IBM PC)
  - 2.5 times faster
  - MCGA enhanced graphics
  - Reduced footprint
  - Integrated features
  - Integrated display and system unit
- Operating system
  - DOS
- Application environments
  - Simple spreadsheets
  - Word processing
  - Education-Collegiate package
  - Entry-level LAN/host workstation

Model 30

- Price/performance (vs. Model 25)
  - MCGA graphics
  - VGA-level function via adapter card
  - Display flexibility
  - One additional expansion slot
- Operating system
  - DOS
- Application environments
  - Simple spreadsheets
  - Word processing
  - Entry-level LAN/host workstation

Model 30 286

- Price/performance (vs. Model 30)
  - VGA graphics
  - 80286 processor
  - Memory expandability: 1Mb to 4Mb on system board; up to 16Mb total system memory
  - Larger capacity diskette drives
- Operating system
  - DOS
  - Operating System/2 Standard Edition Version 1.1 and Extended Edition Version 1.1 (entry configurations only)
- Application environments
  - Simple spreadsheets
  - Word processing
  - LAN/host workstation

Model 50 Z

- Price/performance (vs. Model 30 286)
  - Micro Channel
  - Larger capacity/faster access disk drives
  - Multifunction terminal emulator
  - 0 wait states
- Operating systems
  - DOS
  - Operating System/2
- Application environments
  - Spreadsheets
  - Text processing
  - Concurrent communication sessions
  - Small business/commercial applications

Model 55 SX

- Price/performance (vs. Models 50 Z and 60)
  - 80386SX 16 MHz processor
  - More memory, both standard and expandable on system board
  - 386 instruction set
- Operating systems
  - DOS
  - Operating System/2
  - AIX Personal System/2
- Application environments
  - Spreadsheets
  - Text processing
  - Concurrent communications sessions
  - Small business/commercial applications

Model 60

- Price/performance (vs. Model 50 Z)
  - Larger fixed disk
  - Additional fixed disk expansion
  - Four additional expansion slots
- Operating systems
  - DOS
  - Operating System/2
- Application environments
  - Large spreadsheets
  - Desktop publishing
  - Small/medium network LAN server
  - Multiuser system/host
  - Integrated commercial/industry applications

(continued on page 102)

Personal System/2 positioning

(continued)

Model 70 386

- Price/performance (vs. Model 60)
  - 80386 processor
  - Expanded system board memory capacity
  - Faster throughput
- Operating systems
  - DOS
  - Operating System/2
  - AIX Personal System/2
- Application environments
  - Processor-intensive spreadsheets
  - Desktop publishing
  - Concurrent communication sessions
  - Multiuser system/host
  - Small business/commercial applications
  - Power users
- i486 processor upgradeability of Model 70-A61 and -A21

Model P70 386

- Price/performance (vs. Model 70 386)
  - AC-powered portable system
  - VGA 16-gray-scale plasma display
  - 20 MHz 386 processor with higher standard and expandable system board memory (4-8Mb vs. 2-6Mb)
- Operating systems
  - DOS
  - Operating System/2
  - AIX Personal System/2
- Application environments
  - Processor-intensive spreadsheets
  - Business professionals
  - Sales/territory management
  - Insurance agencies
  - Power users
  - Professionals on the go

Model 70 486

- Price/performance (vs. Model 70 386)
  - i486 processor
  - 80 percent faster for business applications
  - Up to three times the performance for computer-intensive tasks
- Operating systems
  - DOS
  - Operating System/2
  - AIX Personal System/2
- Application environments
  - Engineering/scientific
  - Intensive data manipulation
  - Data base extraction
  - Complex business graphics
  - Multitasking applications
  - Desktop publishing

Model 80 386

- Price/performance (vs. Model 70 486)
  - Larger fixed disk
  - Four additional expansion slots
  - Additional fixed disk expansion
- Operating systems
  - DOS
  - Operating System/2
  - AIX Personal System/2
- Application environments
  - Advanced general business
  - Desktop publishing
  - LAN Server—medium/large networks
  - Multiuser system/host
  - Engineering/scientific
  - Integrated commercial/industry applications

PS/2 model comparisons

	Personal System/2 Model									
	25	**30**	**30 286**	**50 Z**	**55 SX**	**60**	**P70 386**	**70 386**	**70 486**	**80 386**
Machine numbers	8525-001, -004, -G01, -G04[1]	8530-001, -021	8530-E01, -E21, -E31	8550-031, -061	8555-031, -061	8560-041, -071	8573-061, -121	8570-E61, -061, -121, -A61, -A21	8570-B61, -B21	8580-041, -071, -111, -311
Processor										
Type	8086	8086	80286	80286	80386SX	80286	80386	80386	i486	80386
Speed (MHz)	8	8	10	10	16	10	20	16 (-E61) 20 (-061, -121) 25 (-A61, -A21) i486 25 (-A61, -A21)[2]	25	16 (-041, -071) 20 (-111, -311)
Wait states	0	0	1	0	0-2	1	0-2	0-2 (-E61, -061, -121) Integrated memory cache (-A61, -A21)	Integrated memory cache	1 (-041, -071) 0-2 (-111, -311)
User memory (RAM)[3]										
Standard-maximum on system board	512Kb-640Kb	640Kb	1Mb-4Mb	1Mb-2Mb	2Mb-4Mb	1Mb	4Mb-8Mb	2Mb-6Mb (-E61, -061, -121) 2Mb-8Mb (-A61, -A21)	2Mb-8Mb	1Mb-2Mb (-041) 2Mb (-071) 2Mb-4Mb (-111, -311)
System maximum (addressable)	640Kb	640Kb	16Mb	16Mb	16Mb	16Mb	16Mb	16Mb	16Mb	16Mb
Integrated functions										
Parallel/serial/ pointing device ports	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Graphics port	MCGA	MCGA	VGA	VGA	VGA	VGA	VGA	VGA	VGA	VGA
Disk/diskette controllers	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clock/calendar	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Security password	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Expansion slots (available)	2[4]	3	3	3	3	7	2[4]	3	3	7
Operating systems										
DOS 3.3 and DOS 4.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Operating System/2	No	No	Yes[5]	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AIX Personal System/2	No	No	No	No	Yes	No	Yes	Yes	Yes	Yes
Diskette drives, 3.5-inch										
Capacity	720Kb	720Kb	1.44Mb	1.44Mb	1.44Mb	1.44Mb	1.44Mb	1.44Mb	1.44Mb	1.44Mb
Quantity standard	1	1	1	1	1	1	1	1	1	1
Fixed disk storage										
Standard-maximum (Mb)	0-20	0-30 (-001) 20 (-021)	0-30 (-E01) 20 (-E21) 30 (-E31)	30 (-031) 60 (-061)	30 (-031) 60 (-061)	44-88 (-041) 70-185 (-071)	60 (-061) 120 (-121)	60 (-E61, -061, -A61) 120 (-121, -A21)	60 (-B61) 120 (-B21)	44-88 (-041) 70-384 (-071) 115-429 (-111) 314-628 (-311)

[1] *Also available as LAN Station Models 25-L01 and -L04.*
[2] *Model 70 386 (8570-A61, -A21) with 486/25 Power Platform option.*
[3] *128Kb of this memory is reserved for hardware system use on Models 55 SX, P70 386, 70 386, 70 486, 80 386 (8580-111, -311).*
[4] *One full-size, one half-size.*
[5] *Entry-level environment only.*

IBM memory expansion table

Product name	Part #	FC #	Memory capacity Min.	Memory capacity Max.	Module kit used Part #	Module kit used Capacity	Personal System/2 Model 25	30	30 286	50 Z	55 SX	60	70 386 P70 386	70 386 70 486	80 386
Expansion Cards															
PS/2 2-8Mb 80386	6450605	5211	2Mb	8Mb	6450603	1Mb							•	•	•
Memory Expansion Option					6450604	2Mb							•	•	•
PS/2 Enhanced 80386	34F3077	3077	2Mb	16Mb	6450603	1Mb							•	•	•
Memory Expansion Option 2Mb Kit					6450604	2Mb							•	•	•
					34F2933	4Mb							•	•	•
PS/2 Enhanced 80386	34F3011	3011	4Mb	16Mb	6450603	1Mb							•	•	•
Memory Expansion Option 4Mb Kit					6450604	2Mb							•	•	•
					34F2933	4Mb							•	•	•
PS/2 2-8Mb 80286	6450609	8286	2Mb	8Mb	6450603	1Mb				•	•	•			
Memory Expansion					6450604	2Mb				•	•	•			
PS/2 80286 Memory Expansion Option	6450344	3006	0.5Mb	2Mb	6450345	0.5Mb				•		•			
PS/2 3Mb Expanded Memory Adapter	34F2864	3864	0.5Mb	3Mb					•						
PS/2 Multifunction Adapter	30F5364	8635	0Mb	12Mb	30F5348	0.5Mb			•						
					30F5360	2Mb									
2Mb Expanded Memory Adapter	2685193	3905	2Mb				•	•							
System Board Kits															
PS/2 System Board Memory Expansion Kit	6450375	3009	1Mb												-041
PS/2 System Board 2Mb Memory Expansion Kit	6450379	8722	2Mb												-111, -311
PS/2 2Mb Memory Module Kit-80ns	6450608	5214	2Mb											-A61, -A21 -B61, -B21	
PS/2 1Mb Memory Module Kit	6450603	5212	1Mb								•		•	-E61, -061, -121	
PS/2 2Mb Memory Module Kit	6450604	5213	2Mb							•	•		•	-E61, -061, -121	
PS/2 4Mb Expanded Memory Option	34F2866	3866	4Mb						•						
PS/2 0.5Mb Memory Module Kit	30F5348	3397	0.5Mb						•						
PS/2 2Mb Memory Module Kit	30F5360	7833	2Mb						•						
PS/2 Model 25 System Board Memory Expansion	78X8955	4105	128Kb				•								
PS/2 4Mb Memory Module Kit	34F2933	3933	4Mb										•	•	•

PS/2 enhancements—fixed disk storage expansion

	Access time	Part #	Personal System/2 Model 25	30	30 286	50 Z	60	80 386
3.5-inch fixed disk								
20Mb*	80ms	78X8958	•					
20Mb*	27ms	6451031		-001	-E01			
30Mb*	39ms	6451030		-001	-E01			
60Mb*	27ms	6450606				-031		
5.25-inch fixed disk								
44Mb**	40ms	6450354					-041	-041
70Mb**	30ms	6450355					-071	-071, -111, -311
115Mb**	28ms	6450377					-071	-071, -111, -311
314Mb**	23ms	6450381						-071, -111, -311

*On-board controller, expansion slot not required.
**Interfaces to existing controller in PS/2; expansion slot not required.

IBM PS/2 options

IBM device/feature	Personal System/2 Model 25	30	30 286	50 Z	55 SX	60	P70 386	70 386 70 486	80 386
486/25 Power Platform								•	
8087 Math Co-Processor	•	•							
80287 Math Co-Processor			•	•		•			
80387SX Math Co-Processor					•				
80387 Math Co-Processor							•	•	•
128Kb Memory Expansion	•								
2Mb Extended Memory Adapter	•	•							
Multifunction Adapter			•						
80286 Memory Expansion				•		•			
2-8Mb 80286 Memory Expansion				•	•	•			
Enhanced 80386 Memory Option							•	•	•
2-8Mb 80386 Memory Expansion							•	•	•
3.5-inch 720Kb Diskette Drive	•	•							
3.5-inch 1.44Mb Diskette Drive			•	•	•	•		•	•
3.5-inch 20Mb Fixed Disk	•	•	•						
3.5-inch 30Mb Fixed Disk		•	•						
5.25-inch 44Mb Fixed Disk						•			•
3.5-inch 60Mb Fixed Disk				•					
5.25-inch 70Mb Fixed Disk						•			•
5.25-inch 115Mb Fixed Disk						•			•
5.25-inch 314Mb Fixed Disk									•
5.25" Internal Diskette Drive						•			•
5.25" External Diskette Drive (360Kb)	•	•	•	•	•	•	•	•	•
5.25" External Diskette Drive (1.2Mb)				•	•	•	•	•	•
PS/2 Data Migration Facility	•	•	•	•	•	•	•	•	•
6157 Streaming Tape Drive		•	•	•	•	•	•	•	•
Internal Tape Backup Unit				•		•		•	•
Monochrome Displays: 8503, 8506, 8507, 8508		•	•	•	•	•	•	•	•
Color Displays: 8512, 8513, 8514		•	•	•	•	•	•	•	•
Display Adapter		•							
Display Adapter 8514/A				•	•	•		•	•
PS/2 Mouse	•	•	•	•	•	•	•	•	•
PC Music Feature	•	•	•						
PS/2 Speech Adapter	•	•	•						
Game Control Adapter	•	•	•						
3117 Scanner Adapter			•						
3117 Scanner Adapter/A				•	•	•	•	•	•
3119 Scanner Adapter/A				•	•	•	•	•	•
Serial/Parallel Adapter	•	•	•						
300/1200 Internal Modem/A				•	•	•	•	•	•
300/1200/2400 Internal Modem/A				•	•	•	•	•	•
Multi-Protocol Adapter/A				•	•	•	•	•	•
Dual Async Adapter/A				•	•	•	•	•	•
BSC Communications Adapter	•	•							
SDLC Communications Adapter	•	•	•						
5250 Emulation Adapter	•	•	•						
Workstation Emulation Adapter/A				•	•	•	•	•	•
3270 Emulation Adapter	•	•	•						
3270 Connection				•	•	•	•	•	•
Display Station Emulation Adapter	•	•	•						
Display Station Emulation Adapter/A				•	•	•	•	•	•
Token-Ring Network PC Adapter II	•	•	•						
Token-Ring Network 16/4 Adapter	•	•	•						
Token-Ring Network Adapter/A				•	•	•	•	•	•
Token-Ring Network 16/4 Adapter/A				•	•	•	•	•	•
Token-Ring Network Trace and Performance Adapter II	•	•	•						
Token-Ring Network Trace and Performance Adapter II/A				•	•	•	•	•	•
PC Network Adapter II	•	•	•						
PC Network Adapter II/A				•	•	•	•	•	•
PC Network Adapter II Frequency 2	•	•	•						
PC Network Adapter II Frequency 3	•	•	•						
PC Network Adapter II/A Frequency 2				•	•	•	•	•	•
PC Network Adapter II/A Frequency 3				•	•	•	•	•	•
PC Network Baseband Adapter	•	•	•						
PC Network Baseband Adapter/A				•	•	•	•	•	•

Additional cards and options are available—consult your IBM marketing representative or IBM Authorized Dealer.

PS/2 performance and capacity improvements over PS/2 and IBM PC models

The table below provides approximate enhanced performance and capacity ratios of PS/2 models over their IBM Personal Computer or Personal System/2 predecessors. The "×" in table entries means "times higher" for performance ratios; "times as much" in the case of standard memory and diskette and fixed disk capacities.

Personal System/2	IBM predecessor	Performance ratio*	Standard memory	Standard diskette capacity	Standard fixed disk capacity
Model 80 386 (20 MHz)	PC AT (339)	up to 5.9×	4.0×	1.2×	3.8-10.5×
Model 80 386 (16 MHz)	PC AT (339)	up to 4.9×	2.0-4.0×	1.2×	1.5-2.3×
Model 70 486 (25 MHz)	PC AT (339)	up to 16.2×	4.0×	1.2×	4.0×
Model 70 386 (25 MHz)	PC AT (339)	up to 8.4×	4.0×	1.2×	4.0×
Model 70 386 (20 MHz)	PC AT (339)	up to 5.7×	4.0×	1.2×	4.0×
Model 70 386 (16 MHz)	PC AT (339)	up to 4.5×	2.0×	1.2×	4.0×
Model P70 386 (20 MHz)	PC AT (339)	up to 5.7×	8.0×	1.2×	4.0×
Model 55 SX (16 MHz)	PC AT (339)	up to 4.1×	4.0×	1.2×	1.0-2.0×
Model 60 (10 MHz)	PC AT (339)	up to 2.0×	2.0×	1.2×	1.5-2.3×
Model 50 Z (10 MHz)	PC AT (339)	up to 3.5×	2.0×	1.2×	1.0-2.0×
Model 30 286 (10 MHz)	PS/2 (30)	up to 2.0×	0.8×	2.0×	1.0×
Model 30 (8 MHz)	PC XT (089)	up to 2.5×**	1.0×	2.0×	1.0×
Model 25 (8 MHz)	PC	up to 2.4×**	2.5×	2.0×	N/A

These tests were conducted independently by National Software Testing Laboratory. The results were based on the execution time for six jobs: text (word processing), graphics, spreadsheet, business applications, engineering/scientific computations, and data base applications. This information is based on the testing described in the PS/2 performance guide. Your results may vary. For details, contact your IBM marketing representative or an IBM Authorized Dealer.

***Tests for Models 25 and 30 were conducted by IBM.*

Communications software comparisons

	OS/2 EE	3270 Entry Level	3270 Emulation	3270 Workstation	PS/2 Graphics Workstation
	V. 1.2	V. 1.2	V. 3.0	V. 1.1	
3278/3279 emulation		•	•	•	•
3287 printer emulation			•		
3274/3174 coax attachment		•	•	•	•
3174/3720/3725/9370 Token-Ring gateway	•		•	•	
PC LAN gateway	•		•		
LAN compatible	•	•	•	•	•
SDLC line attachment	•		•		
Number of host display sessions		1	1	4	4
Number of PC sessions		1	1	6	1
Number of notepad sessions				2	2
Graphics procedure I/F support					•
HLLAPI		entry		•	•
Presentation space API			subset	•	
(ECF) SRPI		•	•	•	•
Concurrent processing				•	•
XMA support				•	N/A
Host graphics:					
Full					•
GDDM-PCLK		•	•	•	N/A
Integrated				3270 PC	
Graphics devices (RS232 plotters, printers, mouse)					•
IBM PC, XT/286		•	•		
PC XT, PC AT		•	•	•	
Model 25		•	•		
Models 30 and 30 286		•	•	•	
Models 50 Z through 80 386		•	•	•	•
3270 PC, 3270 PC AT				•	

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1. Using the rating scale below, please check off how strongly you agree or disagree with the following statements by placing an **x** in the appropriate column.

	Strongly agree	Agree somewhat	Disagree somewhat	Strongly disagree
A. This guide gave me useful information.	_____	_____	_____	_____
B. This guide is better than ones I've seen from other manufacturers.	_____	_____	_____	_____
C. The sections are logically divided and organized.	_____	_____	_____	_____
D. This guide is easy to use as a reference tool for information.	_____	_____	_____	_____

2. Please describe your overall opinion of the guide. _____

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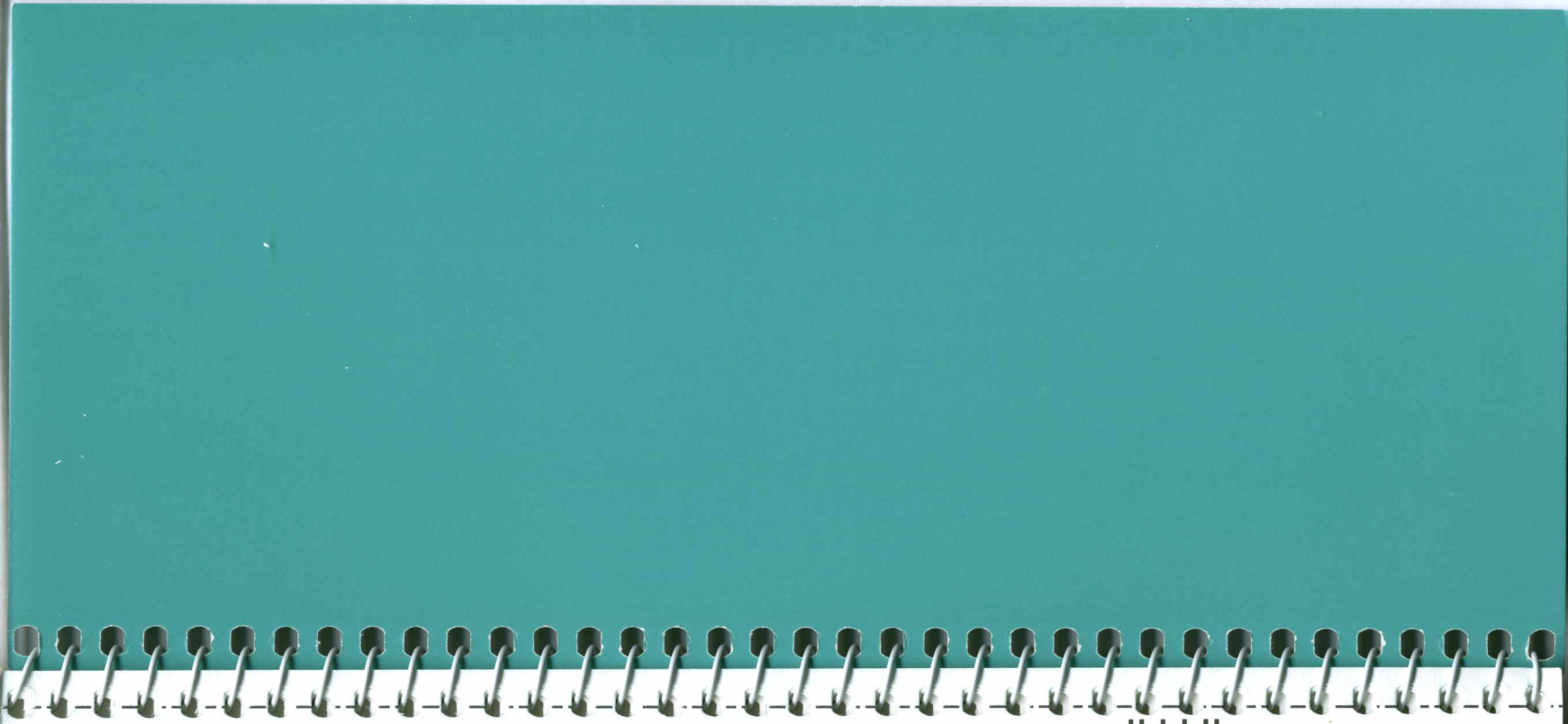

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US Marketing & Services
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Printed in the United States of America
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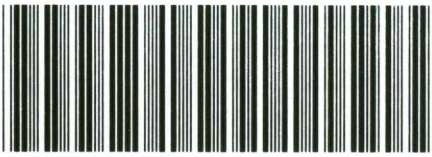

G360-2669-05